

Pantheon Report

Generated at 2018-09-06 16:45:14 (UTC).

Data path: Saudi Arabia on **enp2s0** (*remote*) → AWS India 2 on **ens5** (*local*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against **nets.org.sg** and have been applied to correct the timestamps in logs.

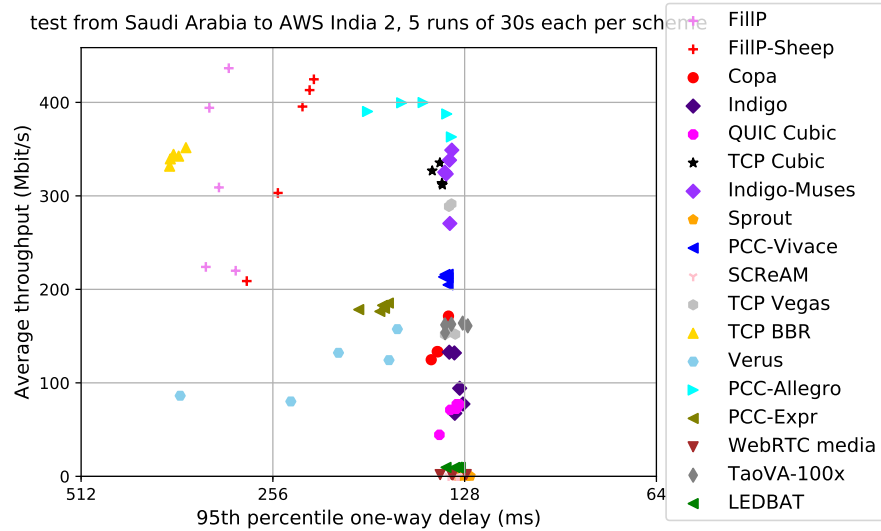
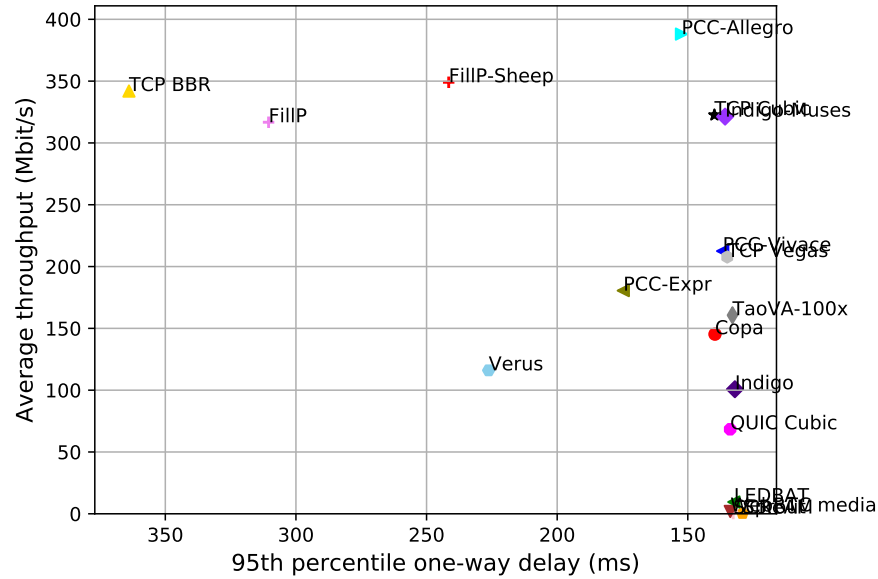
System info:

```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740d4fe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme
(mean of all runs by scheme)



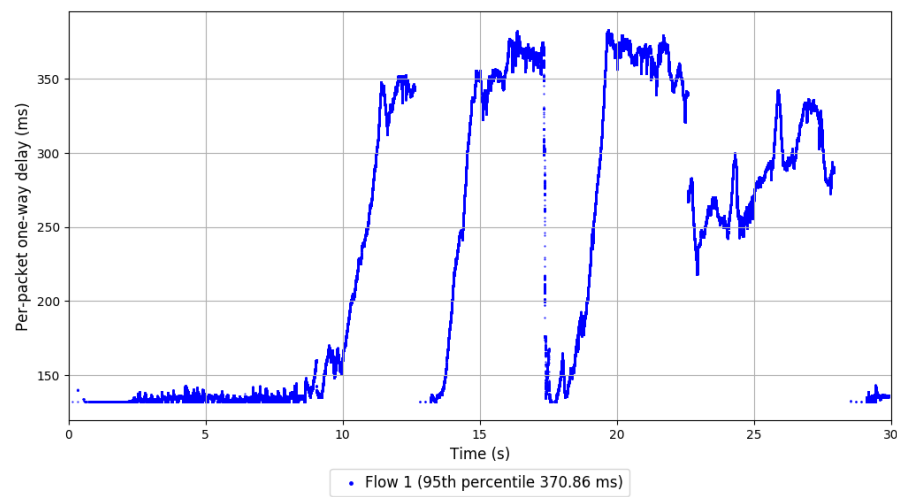
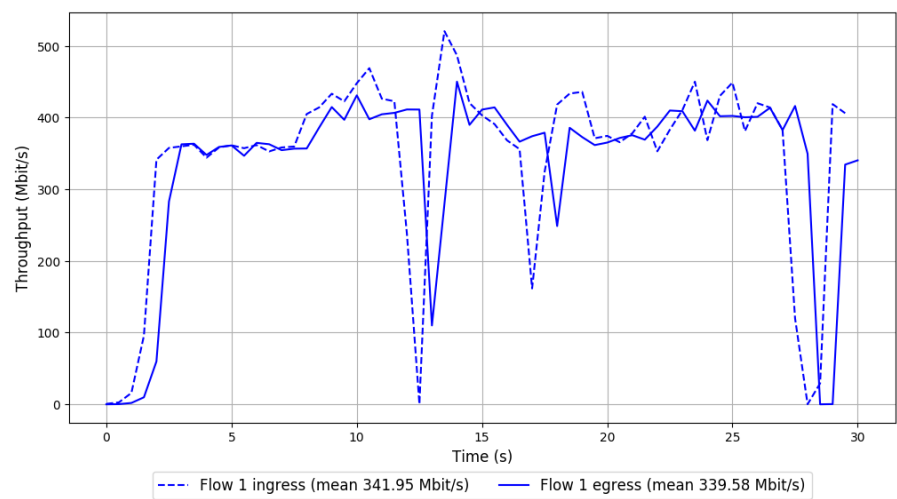
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	341.98	363.92	1.57
Copa	5	145.30	139.60	0.80
TCP Cubic	5	322.57	139.80	0.71
FillP	5	316.74	310.47	1.95
FillP-Sheep	5	349.07	241.52	1.59
Indigo	5	100.75	131.98	0.64
LEDBAT	5	9.52	132.38	1.29
Indigo-Muses	5	321.28	135.73	0.68
PCC-Allegro	5	388.06	152.42	0.89
PCC-Expr	5	180.54	174.70	0.69
QUIC Cubic	5	68.37	133.80	0.84
SCReAM	5	0.22	132.63	0.64
Sprout	5	0.40	129.06	0.63
TaoVA-100x	5	160.63	132.91	0.70
TCP Vegas	5	207.73	134.91	0.70
Verus	5	116.04	226.24	0.99
PCC-Vivace	5	212.53	136.66	0.76
WebRTC media	5	1.88	133.75	0.73

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 14:29:39
End at: 2018-09-06 14:30:09
Local clock offset: -1.528 ms
Remote clock offset: -38.043 ms

Below is generated by plot.py at 2018-09-06 16:21:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 339.58 Mbit/s
95th percentile per-packet one-way delay: 370.856 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 339.58 Mbit/s
95th percentile per-packet one-way delay: 370.856 ms
Loss rate: 1.35%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-06 14:53:33

End at: 2018-09-06 14:54:03

Local clock offset: 3.135 ms

Remote clock offset: -36.6 ms

Below is generated by plot.py at 2018-09-06 16:21:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 331.78 Mbit/s

95th percentile per-packet one-way delay: 371.759 ms

Loss rate: 0.65%

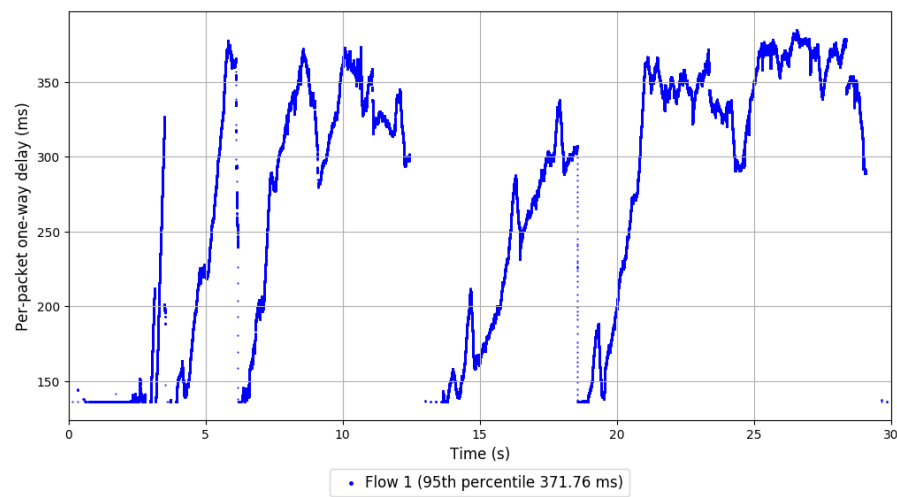
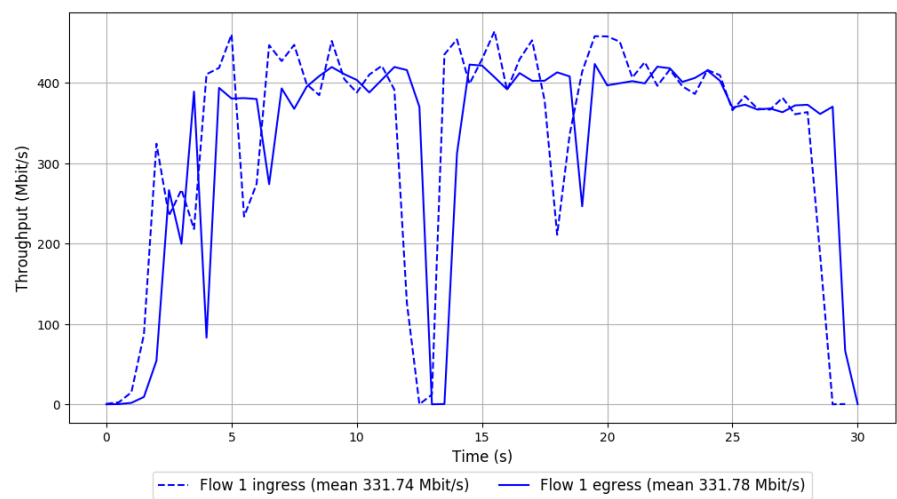
-- Flow 1:

Average throughput: 331.78 Mbit/s

95th percentile per-packet one-way delay: 371.759 ms

Loss rate: 0.65%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-06 15:22:46

End at: 2018-09-06 15:23:16

Local clock offset: 1.751 ms

Remote clock offset: -33.637 ms

Below is generated by plot.py at 2018-09-06 16:21:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 342.52 Mbit/s

95th percentile per-packet one-way delay: 359.867 ms

Loss rate: 2.16%

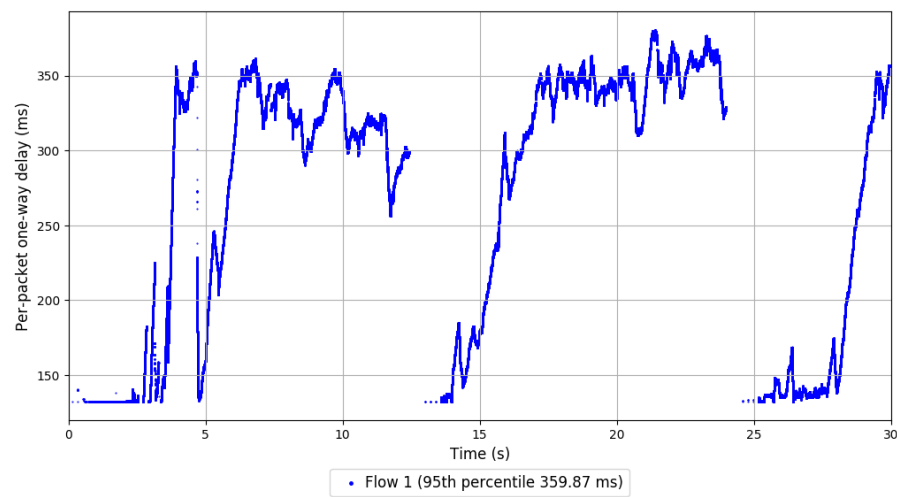
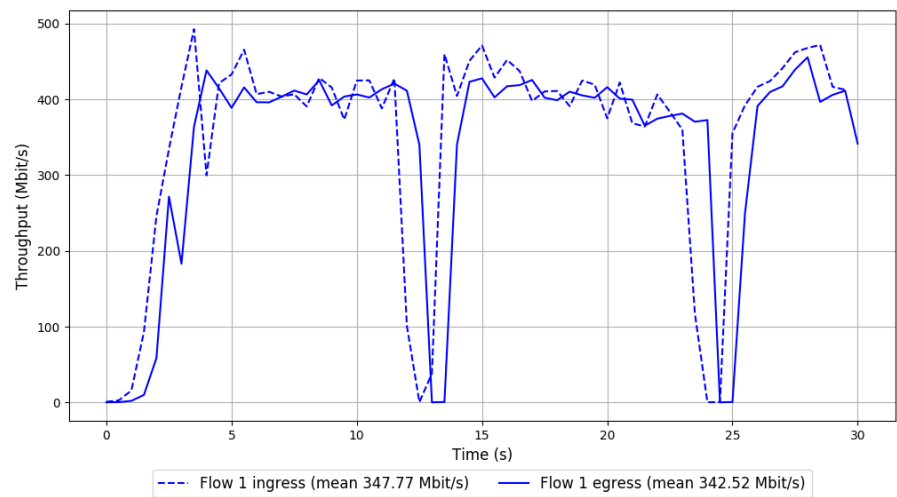
-- Flow 1:

Average throughput: 342.52 Mbit/s

95th percentile per-packet one-way delay: 359.867 ms

Loss rate: 2.16%

Run 3: Report of TCP BBR — Data Link

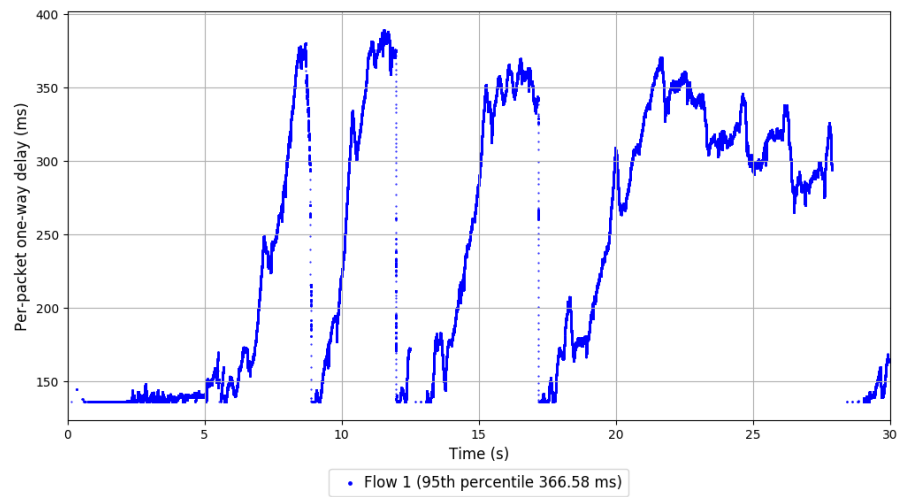
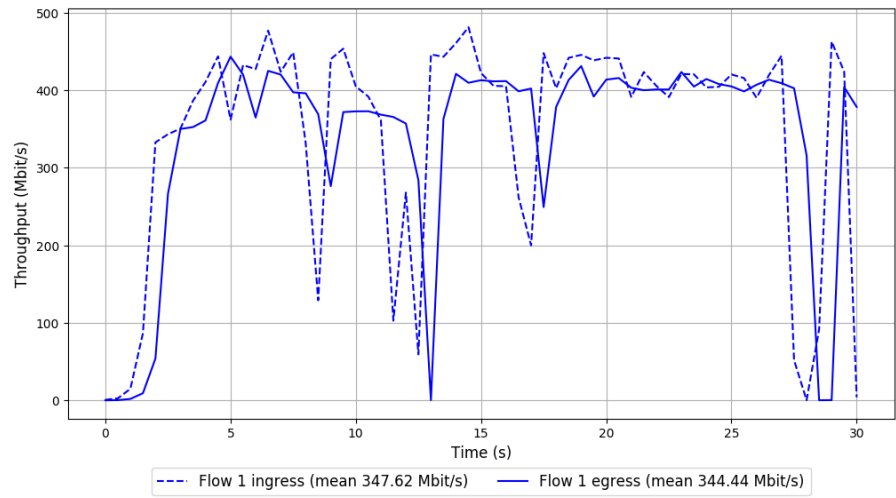


Run 4: Statistics of TCP BBR

Start at: 2018-09-06 15:46:33
End at: 2018-09-06 15:47:03
Local clock offset: 3.499 ms
Remote clock offset: -35.984 ms

Below is generated by plot.py at 2018-09-06 16:21:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 344.44 Mbit/s
95th percentile per-packet one-way delay: 366.582 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 344.44 Mbit/s
95th percentile per-packet one-way delay: 366.582 ms
Loss rate: 1.60%

Run 4: Report of TCP BBR — Data Link

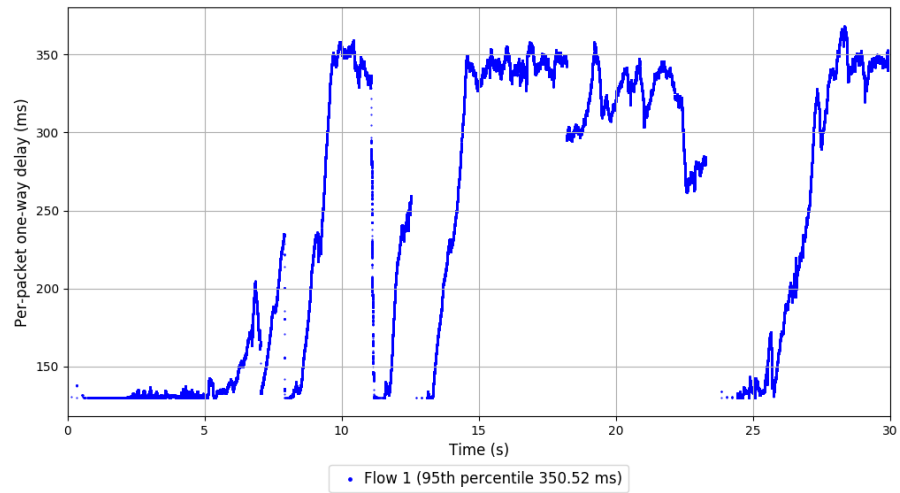
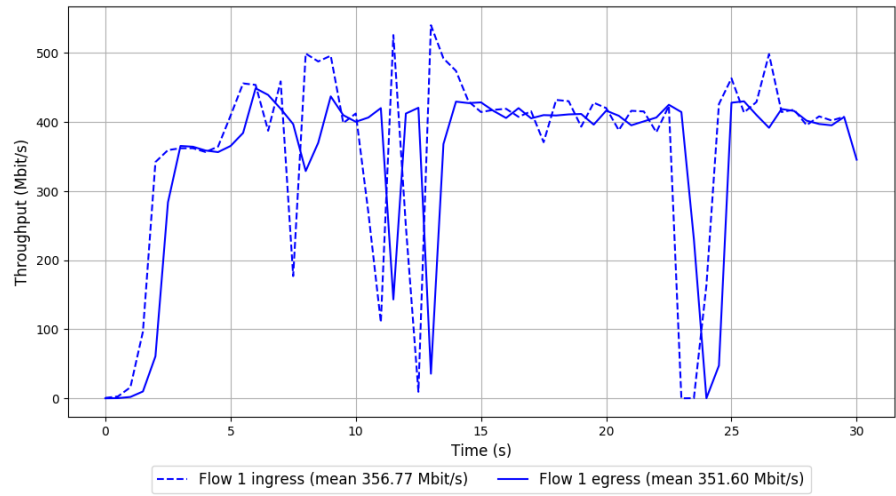


Run 5: Statistics of TCP BBR

Start at: 2018-09-06 16:10:37
End at: 2018-09-06 16:11:07
Local clock offset: 1.352 ms
Remote clock offset: -30.436 ms

Below is generated by plot.py at 2018-09-06 16:21:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 351.60 Mbit/s
95th percentile per-packet one-way delay: 350.521 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 351.60 Mbit/s
95th percentile per-packet one-way delay: 350.521 ms
Loss rate: 2.09%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-06 14:25:31

End at: 2018-09-06 14:26:01

Local clock offset: 3.521 ms

Remote clock offset: -32.932 ms

Below is generated by plot.py at 2018-09-06 16:21:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 171.41 Mbit/s

95th percentile per-packet one-way delay: 135.702 ms

Loss rate: 0.73%

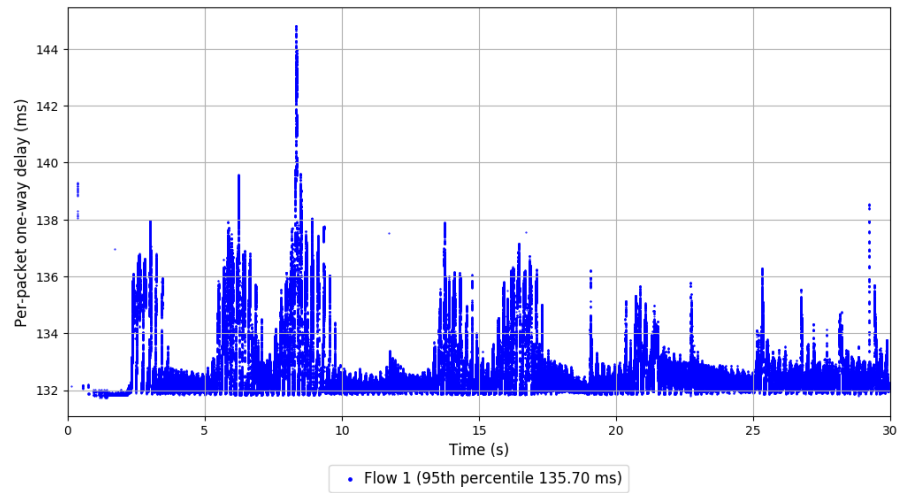
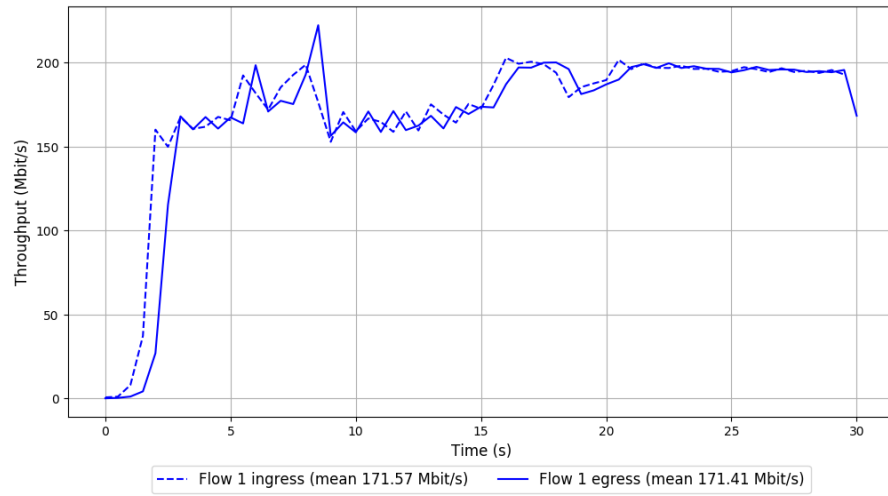
-- Flow 1:

Average throughput: 171.41 Mbit/s

95th percentile per-packet one-way delay: 135.702 ms

Loss rate: 0.73%

Run 1: Report of Copa — Data Link

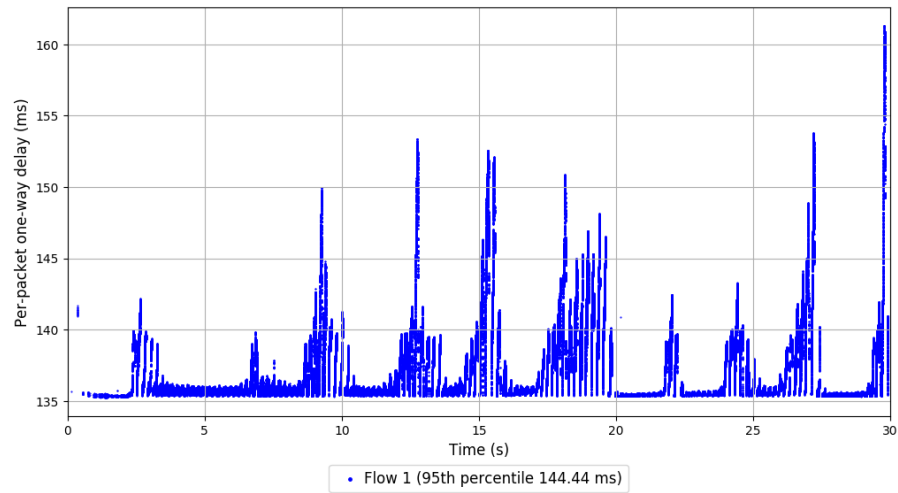
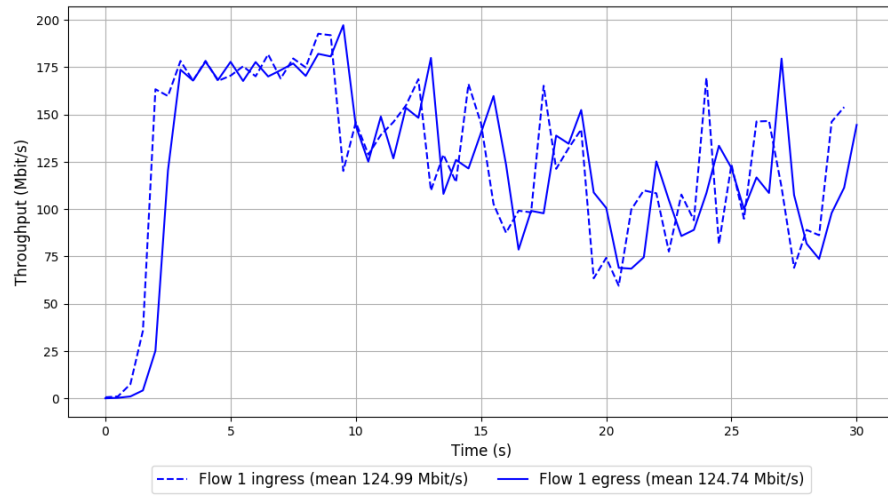


Run 2: Statistics of Copa

Start at: 2018-09-06 14:49:31
End at: 2018-09-06 14:50:01
Local clock offset: 2.587 ms
Remote clock offset: -36.391 ms

Below is generated by plot.py at 2018-09-06 16:21:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 124.74 Mbit/s
95th percentile per-packet one-way delay: 144.442 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 124.74 Mbit/s
95th percentile per-packet one-way delay: 144.442 ms
Loss rate: 0.85%

Run 2: Report of Copa — Data Link

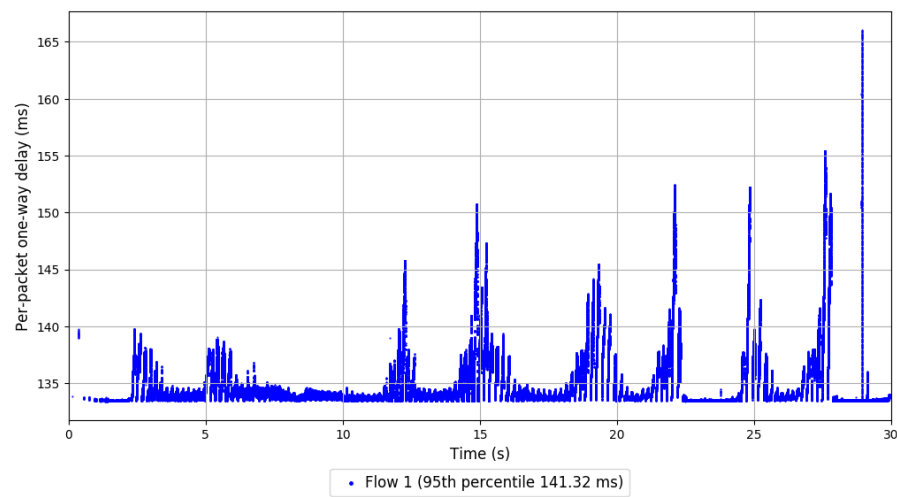
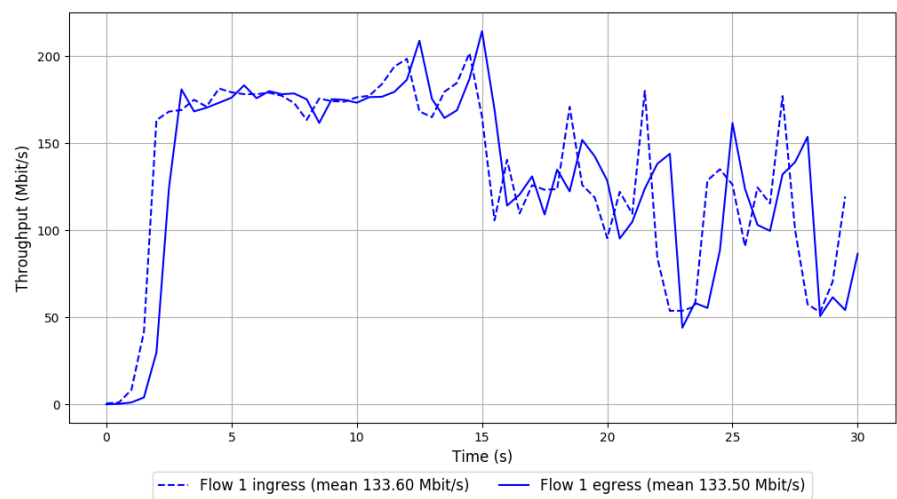


Run 3: Statistics of Copa

Start at: 2018-09-06 15:18:44
End at: 2018-09-06 15:19:14
Local clock offset: 1.757 ms
Remote clock offset: -36.483 ms

Below is generated by plot.py at 2018-09-06 16:21:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 133.50 Mbit/s
95th percentile per-packet one-way delay: 141.325 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 133.50 Mbit/s
95th percentile per-packet one-way delay: 141.325 ms
Loss rate: 0.73%

Run 3: Report of Copa — Data Link

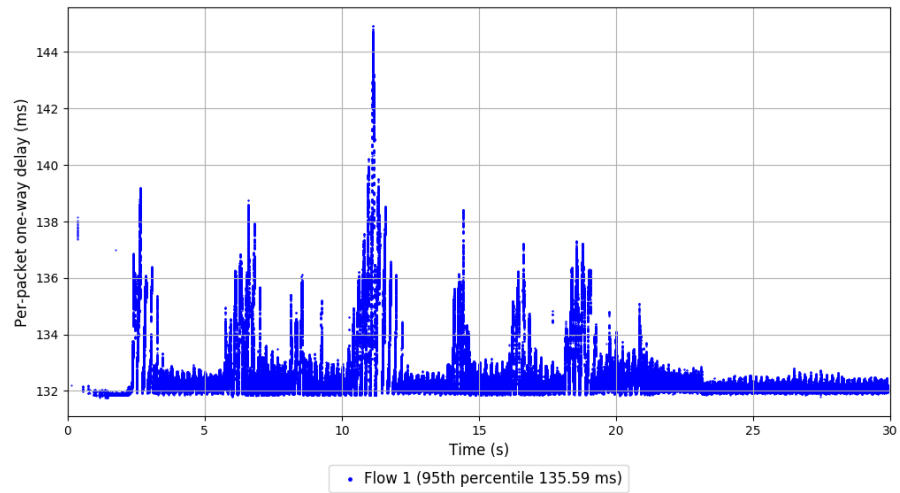
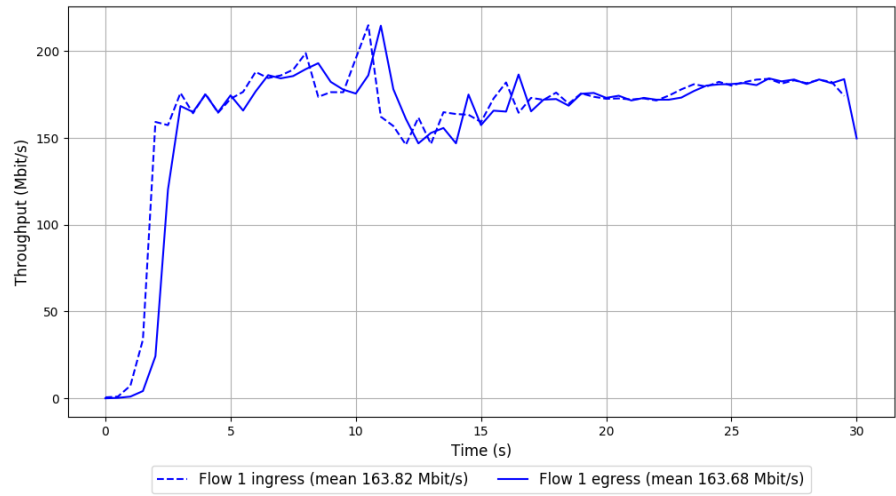


Run 4: Statistics of Copa

Start at: 2018-09-06 15:42:27
End at: 2018-09-06 15:42:57
Local clock offset: -0.857 ms
Remote clock offset: -36.202 ms

Below is generated by plot.py at 2018-09-06 16:23:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 163.68 Mbit/s
95th percentile per-packet one-way delay: 135.588 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 163.68 Mbit/s
95th percentile per-packet one-way delay: 135.588 ms
Loss rate: 0.73%

Run 4: Report of Copa — Data Link

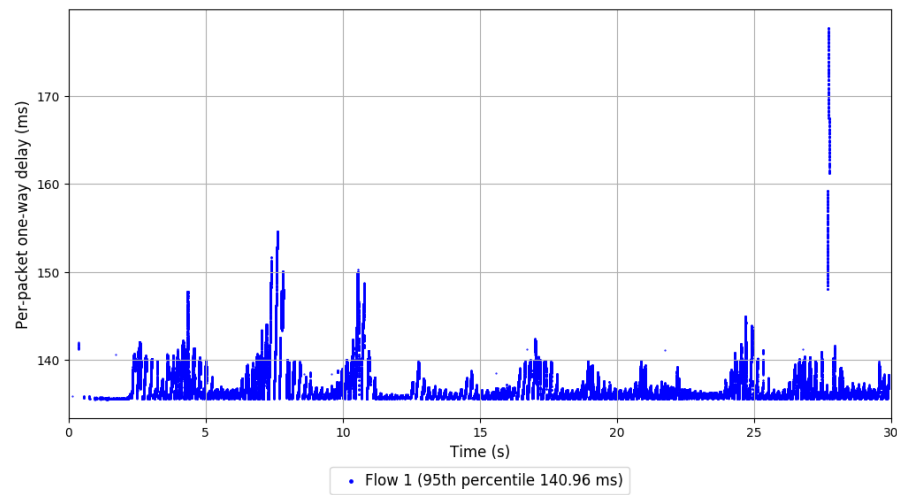
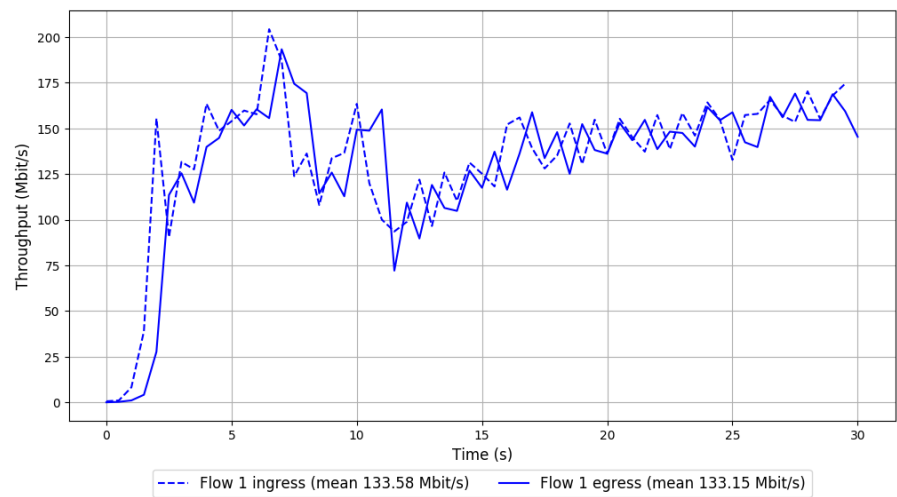


Run 5: Statistics of Copa

Start at: 2018-09-06 16:06:30
End at: 2018-09-06 16:07:00
Local clock offset: 3.176 ms
Remote clock offset: -34.621 ms

Below is generated by plot.py at 2018-09-06 16:23:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 133.15 Mbit/s
95th percentile per-packet one-way delay: 140.958 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 133.15 Mbit/s
95th percentile per-packet one-way delay: 140.958 ms
Loss rate: 0.97%

Run 5: Report of Copa — Data Link

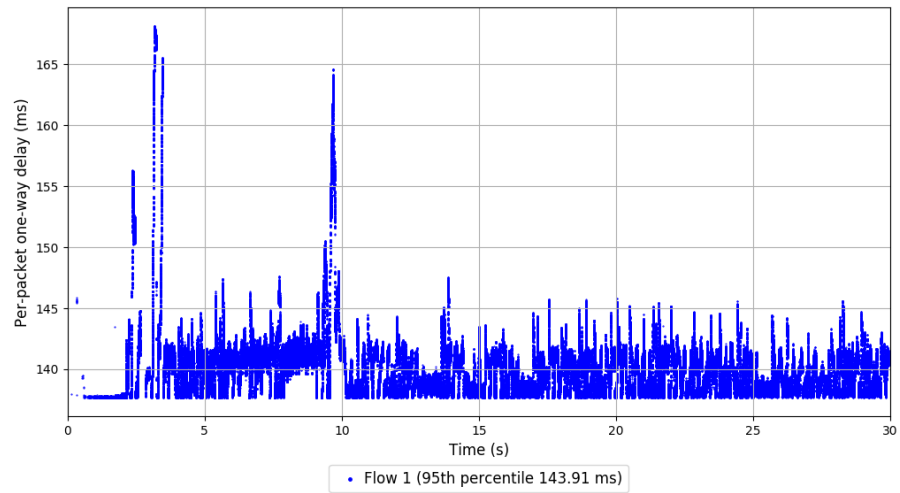
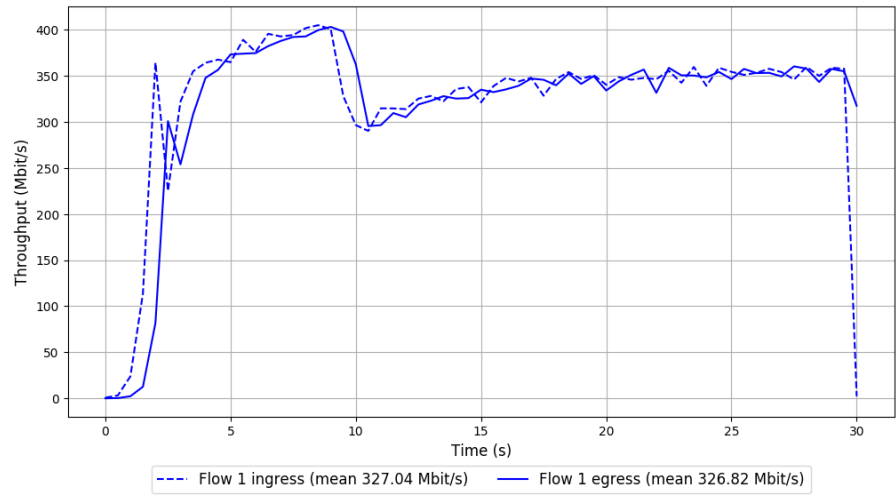


Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 14:21:18
End at: 2018-09-06 14:21:48
Local clock offset: 3.788 ms
Remote clock offset: -38.732 ms

Below is generated by plot.py at 2018-09-06 16:24:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 326.82 Mbit/s
95th percentile per-packet one-way delay: 143.913 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 326.82 Mbit/s
95th percentile per-packet one-way delay: 143.913 ms
Loss rate: 0.72%

Run 1: Report of TCP Cubic — Data Link

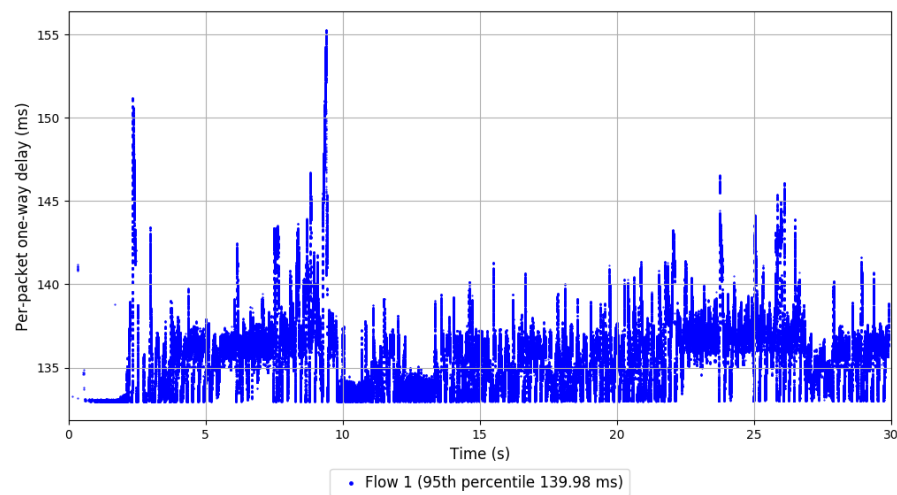
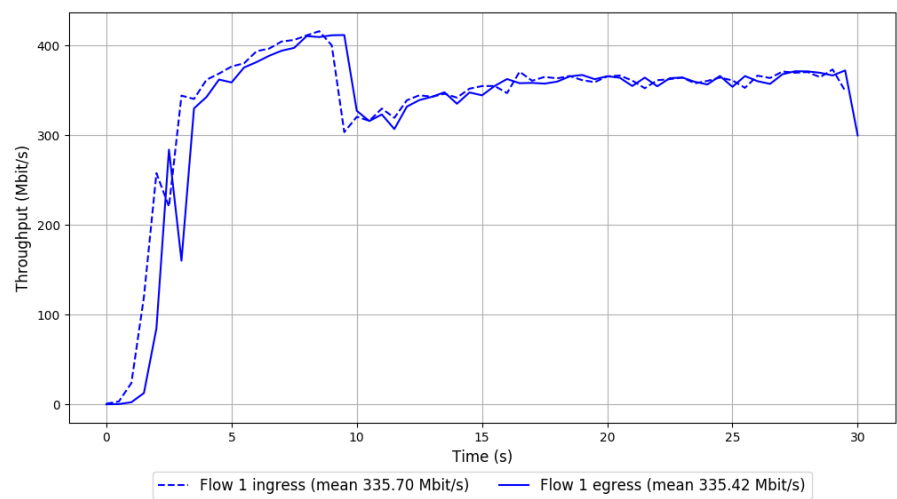


Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 14:45:14
End at: 2018-09-06 14:45:44
Local clock offset: 2.189 ms
Remote clock offset: -34.504 ms

Below is generated by plot.py at 2018-09-06 16:25:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 335.42 Mbit/s
95th percentile per-packet one-way delay: 139.983 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 335.42 Mbit/s
95th percentile per-packet one-way delay: 139.983 ms
Loss rate: 0.74%

Run 2: Report of TCP Cubic — Data Link

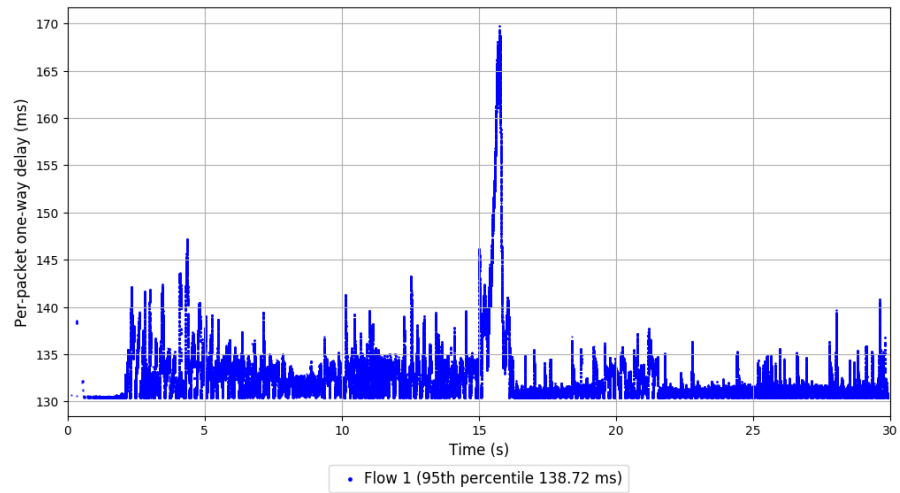
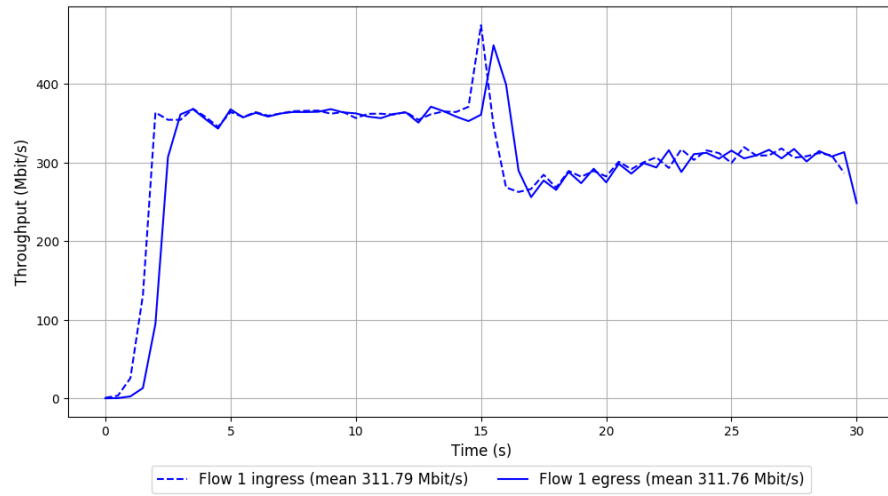


Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 15:08:59
End at: 2018-09-06 15:09:29
Local clock offset: -1.166 ms
Remote clock offset: -36.075 ms

Below is generated by plot.py at 2018-09-06 16:25:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 311.76 Mbit/s
95th percentile per-packet one-way delay: 138.716 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 311.76 Mbit/s
95th percentile per-packet one-way delay: 138.716 ms
Loss rate: 0.65%

Run 3: Report of TCP Cubic — Data Link

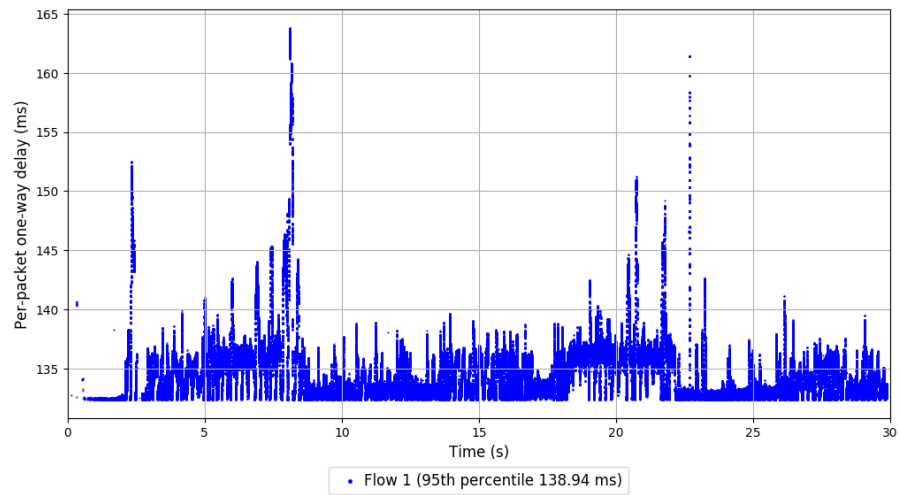
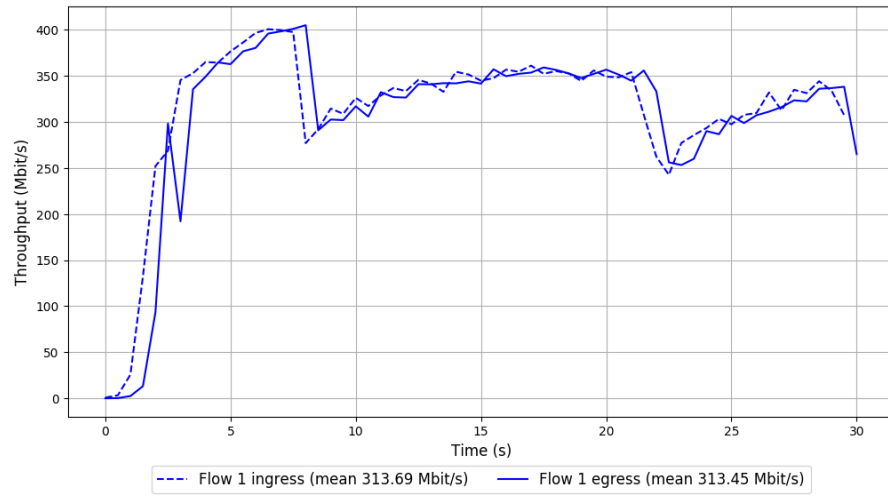


Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 15:38:19
End at: 2018-09-06 15:38:49
Local clock offset: 0.821 ms
Remote clock offset: -36.481 ms

Below is generated by plot.py at 2018-09-06 16:25:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 313.45 Mbit/s
95th percentile per-packet one-way delay: 138.943 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 313.45 Mbit/s
95th percentile per-packet one-way delay: 138.943 ms
Loss rate: 0.71%

Run 4: Report of TCP Cubic — Data Link

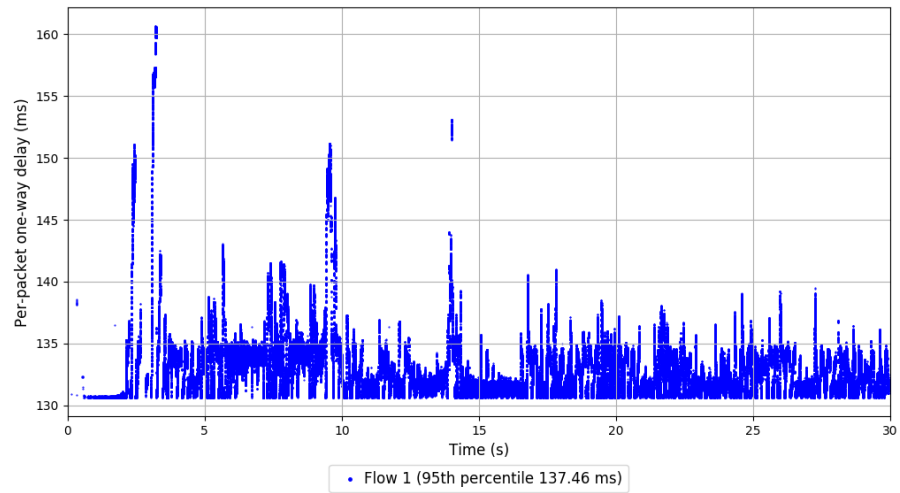
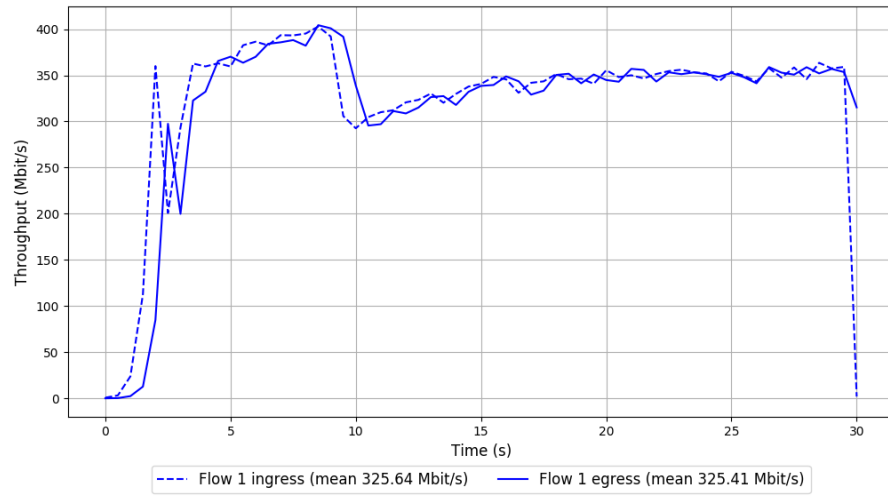


Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 16:02:12
End at: 2018-09-06 16:02:42
Local clock offset: -0.499 ms
Remote clock offset: -33.419 ms

Below is generated by plot.py at 2018-09-06 16:25:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 325.41 Mbit/s
95th percentile per-packet one-way delay: 137.463 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 325.41 Mbit/s
95th percentile per-packet one-way delay: 137.463 ms
Loss rate: 0.72%

Run 5: Report of TCP Cubic — Data Link

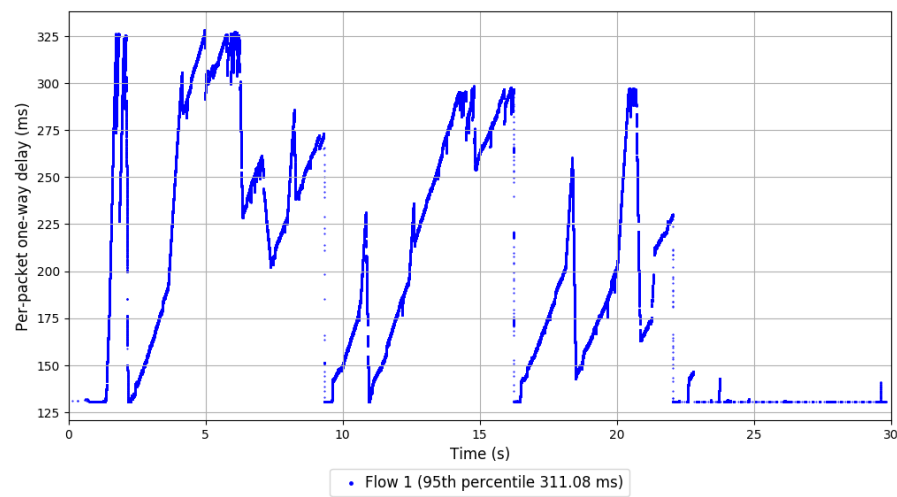
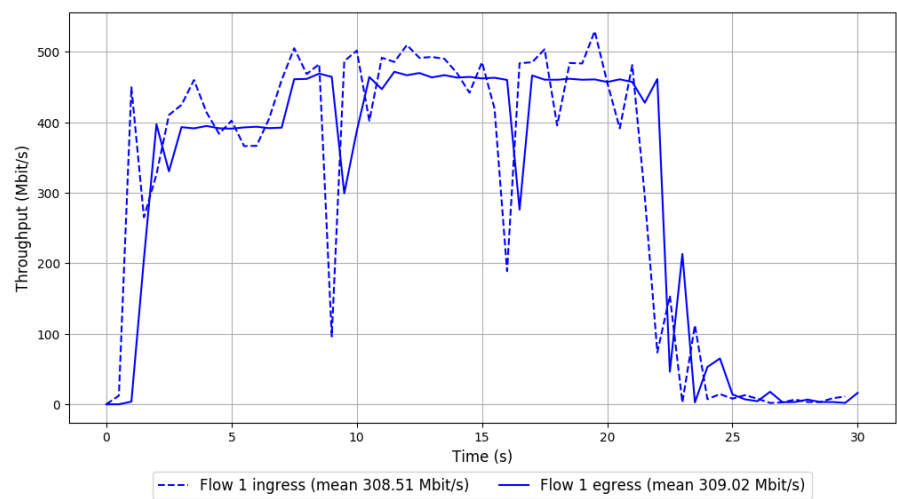


Run 1: Statistics of FillP

Start at: 2018-09-06 14:24:09
End at: 2018-09-06 14:24:39
Local clock offset: -1.524 ms
Remote clock offset: -38.548 ms

Below is generated by plot.py at 2018-09-06 16:25:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 309.02 Mbit/s
95th percentile per-packet one-way delay: 311.080 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 309.02 Mbit/s
95th percentile per-packet one-way delay: 311.080 ms
Loss rate: 0.68%

Run 1: Report of FillP — Data Link

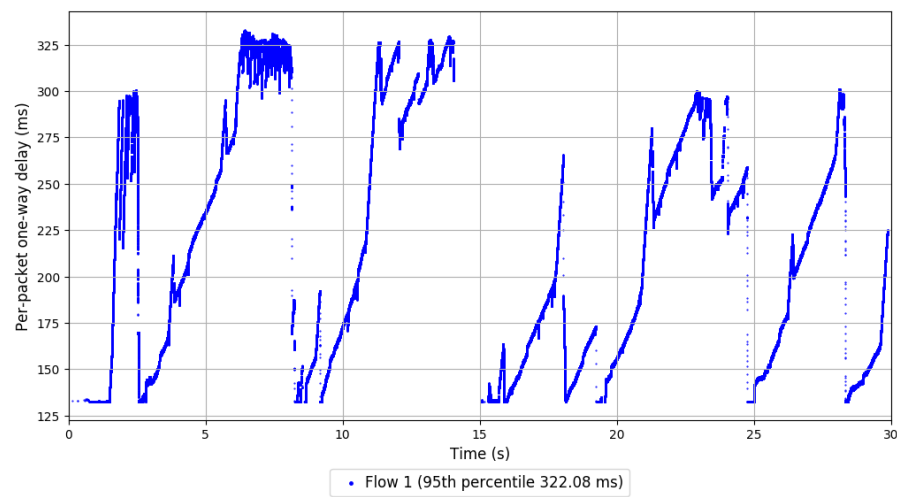
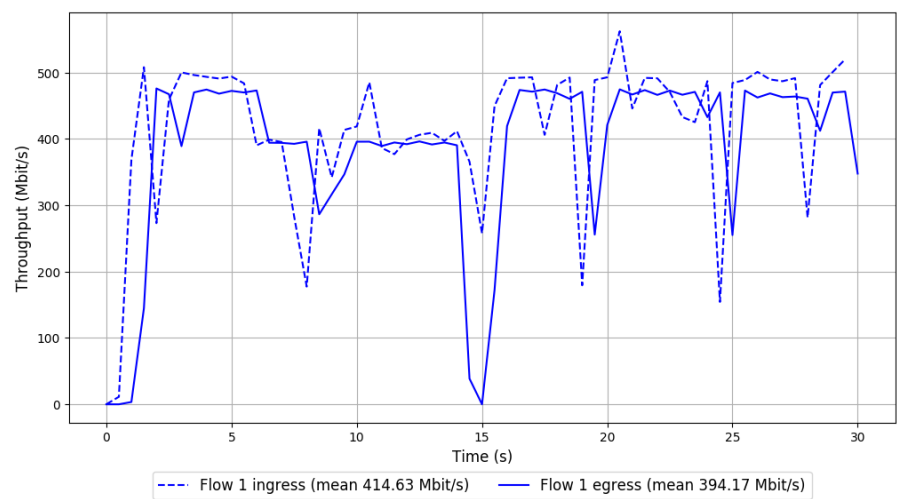


Run 2: Statistics of FillP

Start at: 2018-09-06 14:48:05
End at: 2018-09-06 14:48:35
Local clock offset: 3.802 ms
Remote clock offset: -32.283 ms

Below is generated by plot.py at 2018-09-06 16:28:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 394.17 Mbit/s
95th percentile per-packet one-way delay: 322.078 ms
Loss rate: 5.71%
-- Flow 1:
Average throughput: 394.17 Mbit/s
95th percentile per-packet one-way delay: 322.078 ms
Loss rate: 5.71%

Run 2: Report of FillP — Data Link

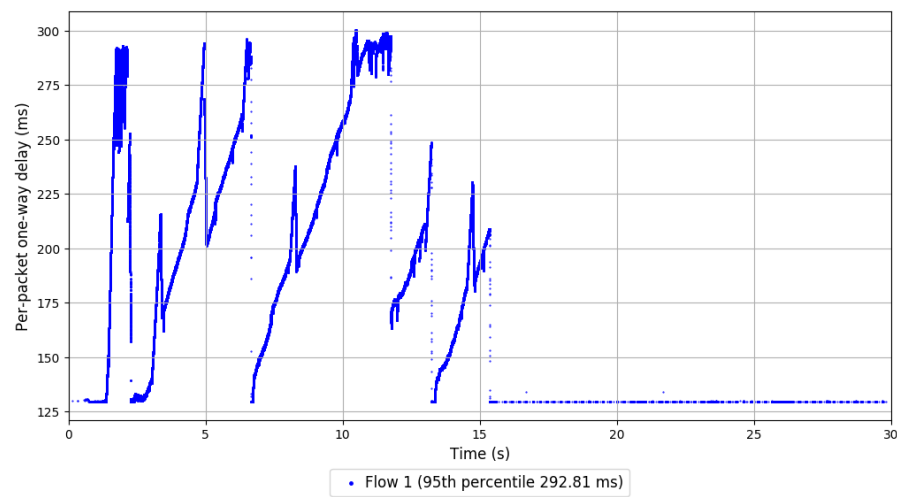
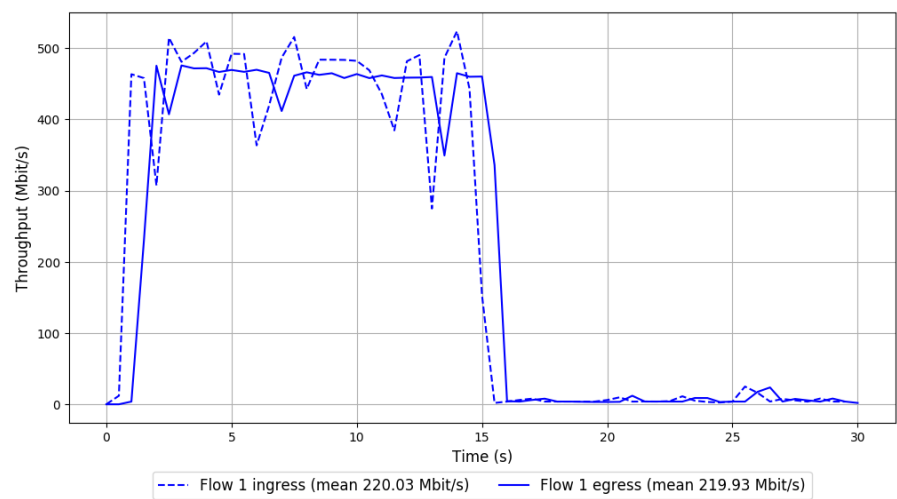


Run 3: Statistics of FillP

Start at: 2018-09-06 15:17:25
End at: 2018-09-06 15:17:55
Local clock offset: -2.103 ms
Remote clock offset: -36.336 ms

Below is generated by plot.py at 2018-09-06 16:28:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 219.93 Mbit/s
95th percentile per-packet one-way delay: 292.808 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 219.93 Mbit/s
95th percentile per-packet one-way delay: 292.808 ms
Loss rate: 0.56%

Run 3: Report of FillP — Data Link

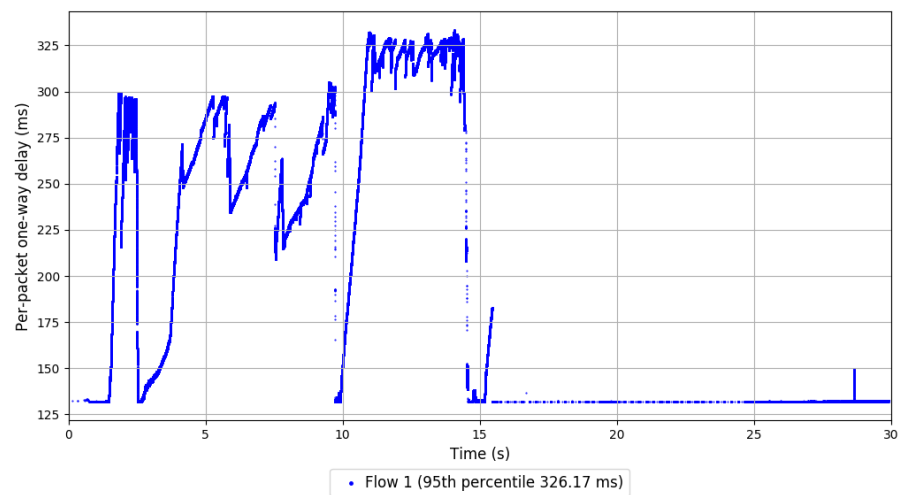
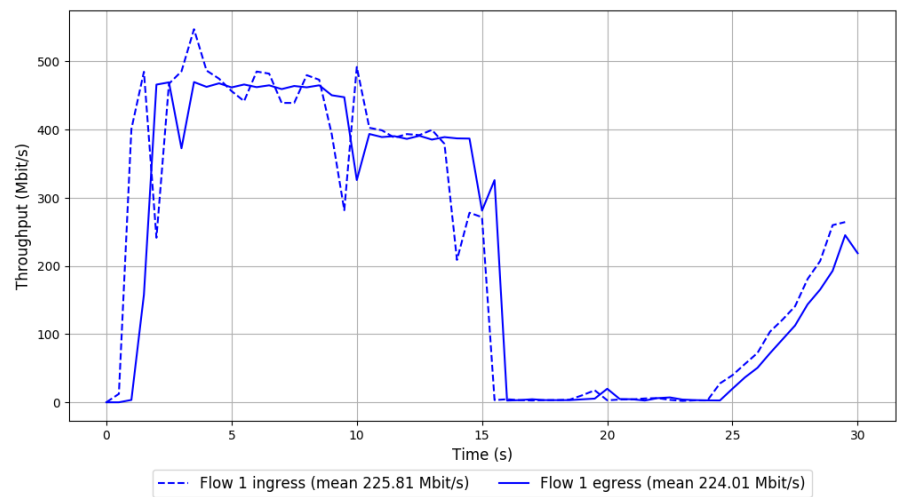


Run 4: Statistics of FillP

Start at: 2018-09-06 15:41:08
End at: 2018-09-06 15:41:38
Local clock offset: 0.709 ms
Remote clock offset: -35.928 ms

Below is generated by plot.py at 2018-09-06 16:28:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 224.01 Mbit/s
95th percentile per-packet one-way delay: 326.165 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 224.01 Mbit/s
95th percentile per-packet one-way delay: 326.165 ms
Loss rate: 1.44%

Run 4: Report of FillP — Data Link

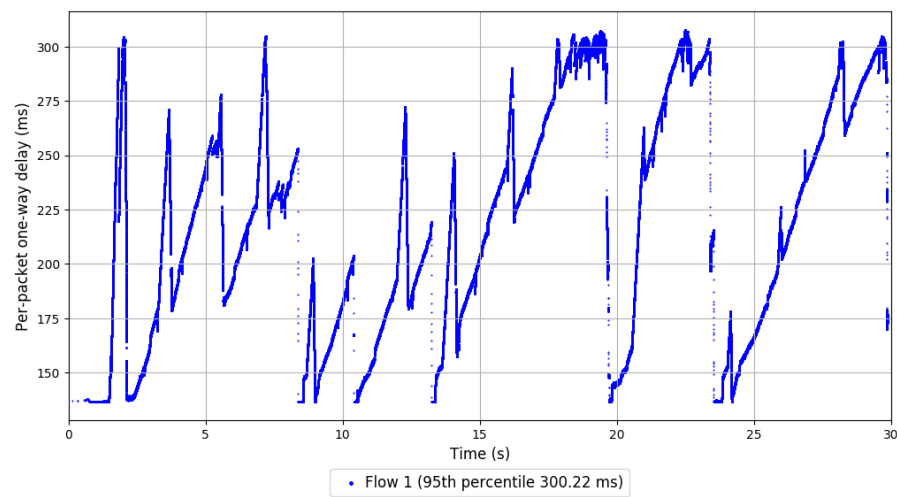
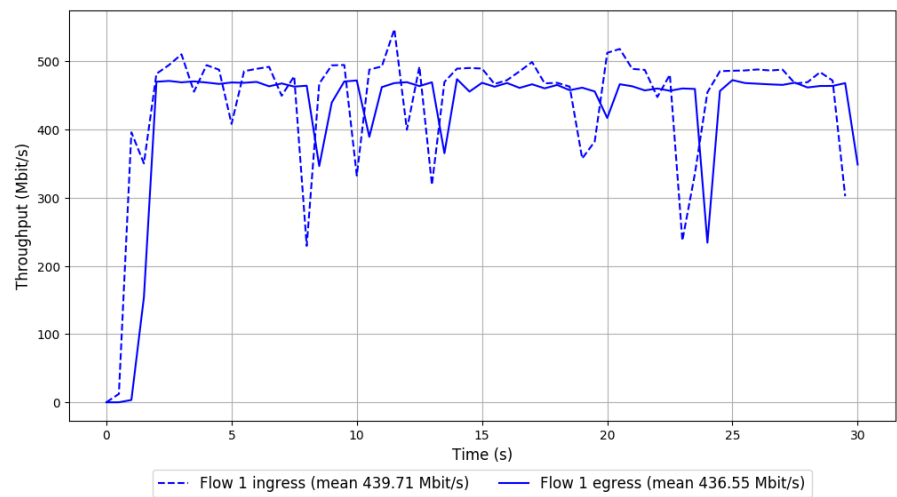


Run 5: Statistics of FillP

Start at: 2018-09-06 16:05:03
End at: 2018-09-06 16:05:33
Local clock offset: 2.294 ms
Remote clock offset: -38.07 ms

Below is generated by plot.py at 2018-09-06 16:30:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 436.55 Mbit/s
95th percentile per-packet one-way delay: 300.221 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 436.55 Mbit/s
95th percentile per-packet one-way delay: 300.221 ms
Loss rate: 1.38%

Run 5: Report of FillP — Data Link

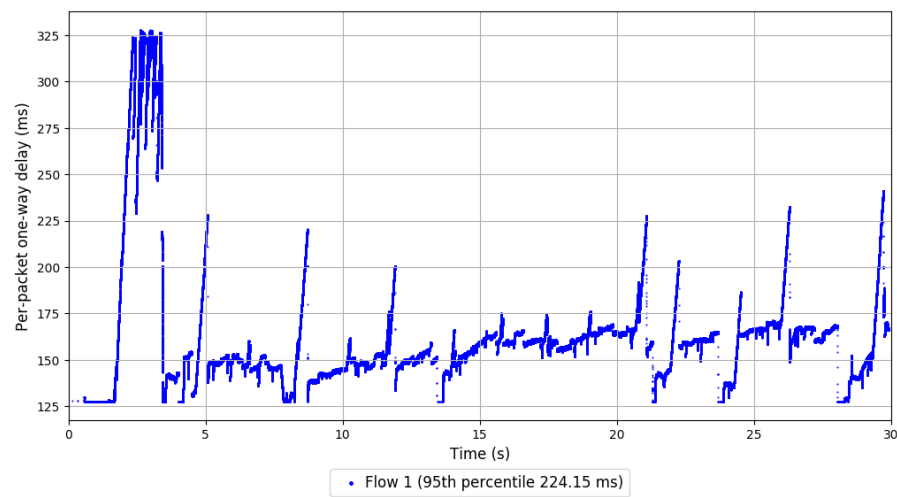
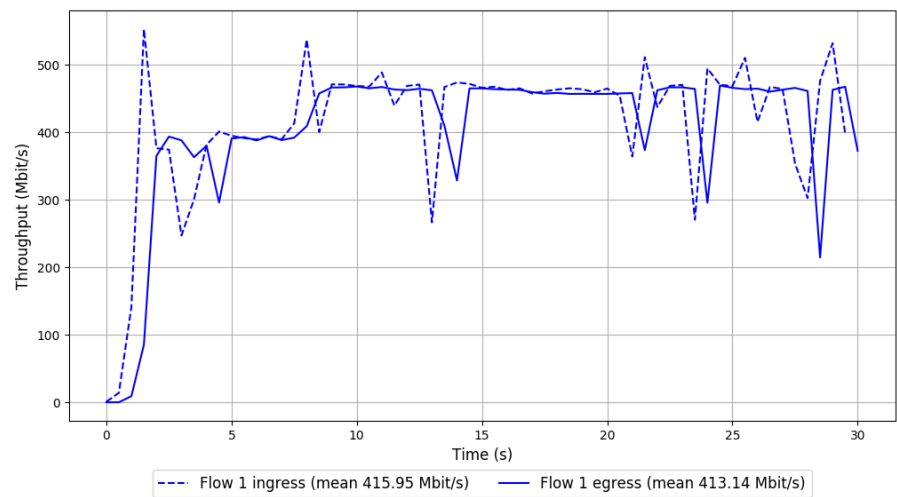


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 14:19:53
End at: 2018-09-06 14:20:23
Local clock offset: -5.999 ms
Remote clock offset: -38.457 ms

Below is generated by plot.py at 2018-09-06 16:30:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 413.14 Mbit/s
95th percentile per-packet one-way delay: 224.154 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 413.14 Mbit/s
95th percentile per-packet one-way delay: 224.154 ms
Loss rate: 1.34%

Run 1: Report of FillP-Sheep — Data Link

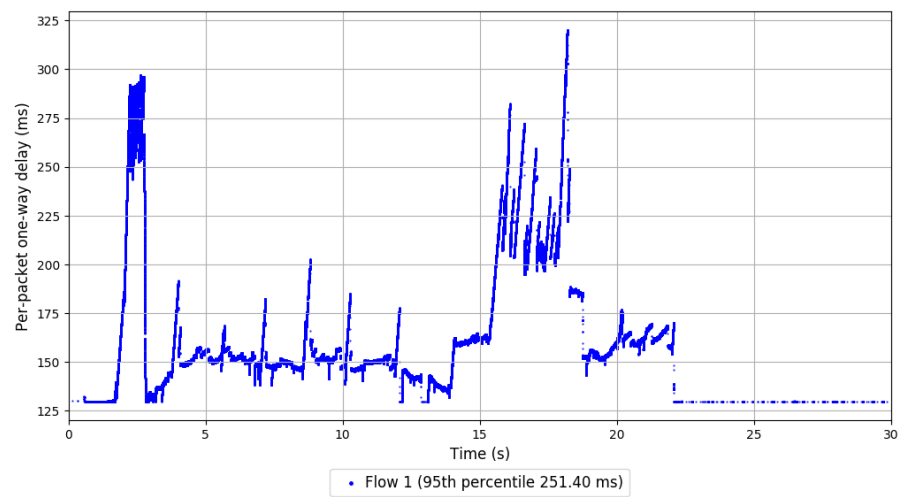
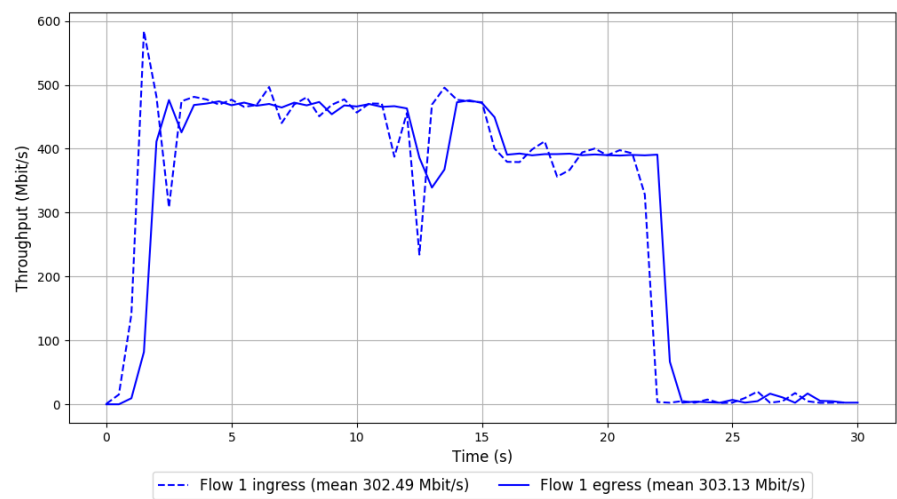


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 14:43:53
End at: 2018-09-06 14:44:23
Local clock offset: 1.202 ms
Remote clock offset: -33.812 ms

Below is generated by plot.py at 2018-09-06 16:30:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 303.13 Mbit/s
95th percentile per-packet one-way delay: 251.398 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 303.13 Mbit/s
95th percentile per-packet one-way delay: 251.398 ms
Loss rate: 0.31%

Run 2: Report of FillP-Sheep — Data Link

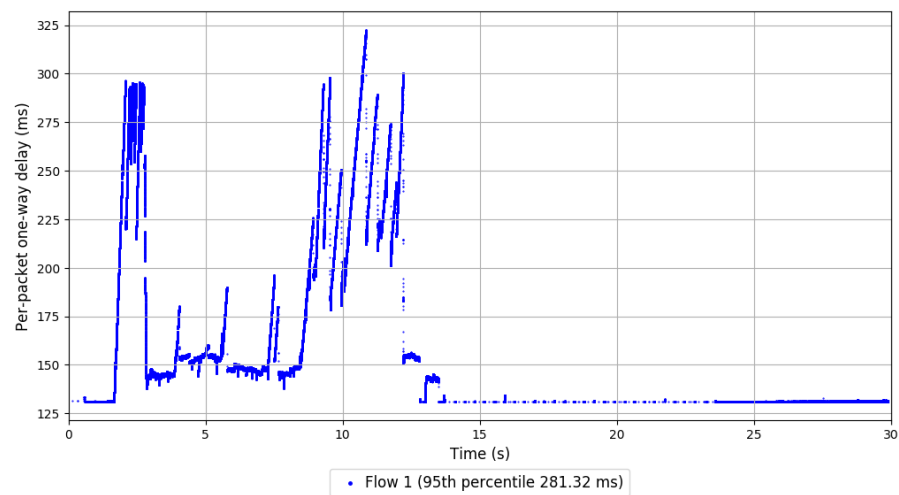
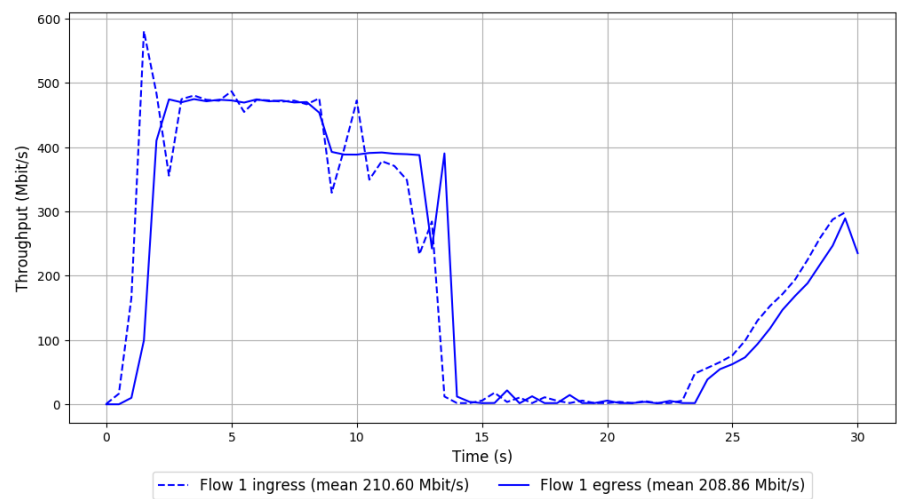


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 15:07:40
End at: 2018-09-06 15:08:10
Local clock offset: -2.079 ms
Remote clock offset: -35.918 ms

Below is generated by plot.py at 2018-09-06 16:30:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 208.86 Mbit/s
95th percentile per-packet one-way delay: 281.320 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 208.86 Mbit/s
95th percentile per-packet one-way delay: 281.320 ms
Loss rate: 1.48%

Run 3: Report of FillP-Sheep — Data Link

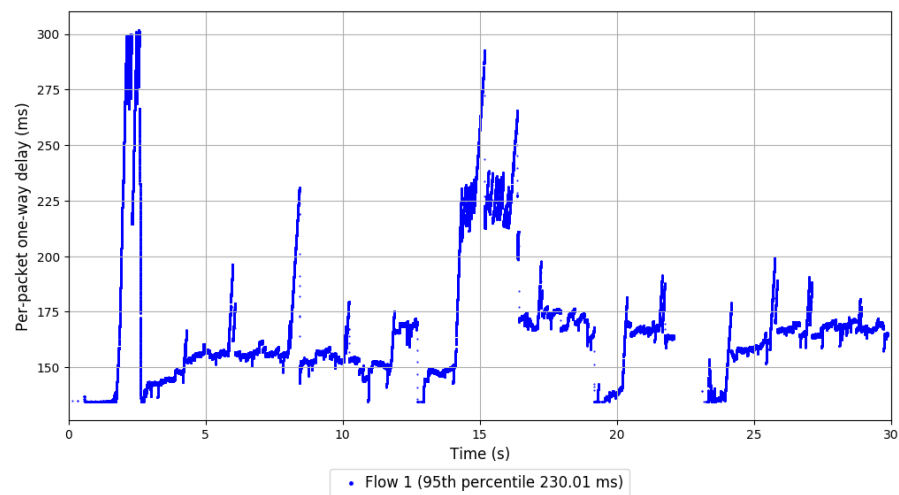
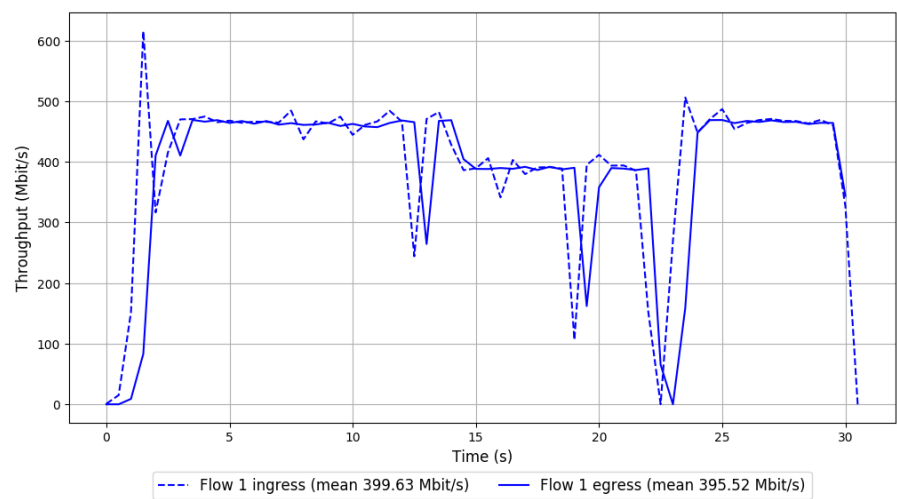


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 15:36:53
End at: 2018-09-06 15:37:23
Local clock offset: 1.918 ms
Remote clock offset: -35.948 ms

Below is generated by plot.py at 2018-09-06 16:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 395.52 Mbit/s
95th percentile per-packet one-way delay: 230.014 ms
Loss rate: 3.65%
-- Flow 1:
Average throughput: 395.52 Mbit/s
95th percentile per-packet one-way delay: 230.014 ms
Loss rate: 3.65%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 16:00:46

End at: 2018-09-06 16:01:16

Local clock offset: 1.347 ms

Remote clock offset: -35.725 ms

Below is generated by plot.py at 2018-09-06 16:32:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 424.69 Mbit/s

95th percentile per-packet one-way delay: 220.729 ms

Loss rate: 1.18%

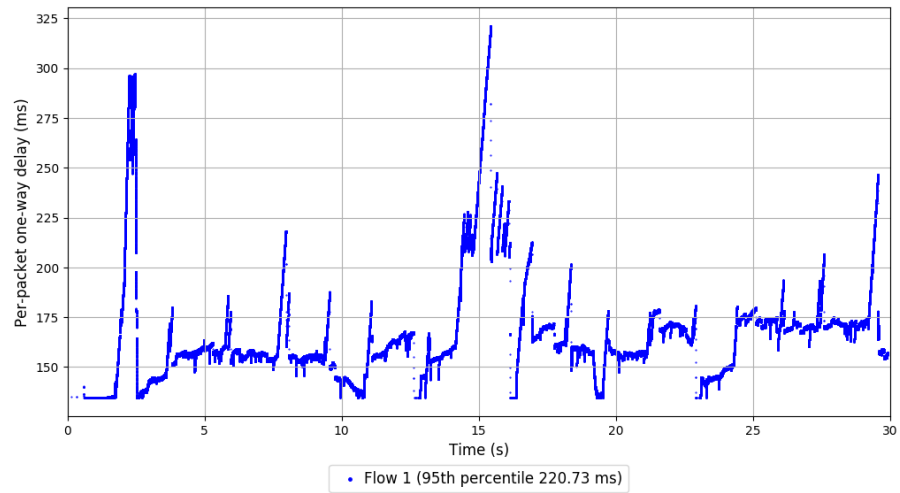
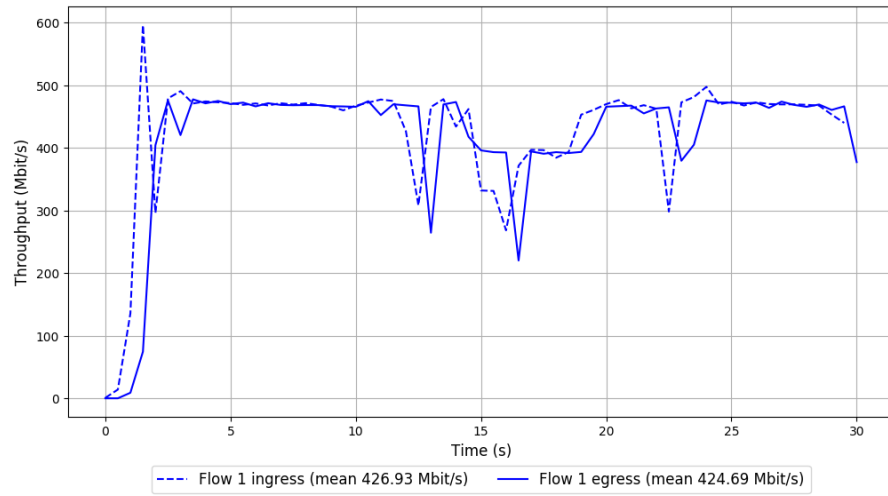
-- Flow 1:

Average throughput: 424.69 Mbit/s

95th percentile per-packet one-way delay: 220.729 ms

Loss rate: 1.18%

Run 5: Report of FillP-Sheep — Data Link

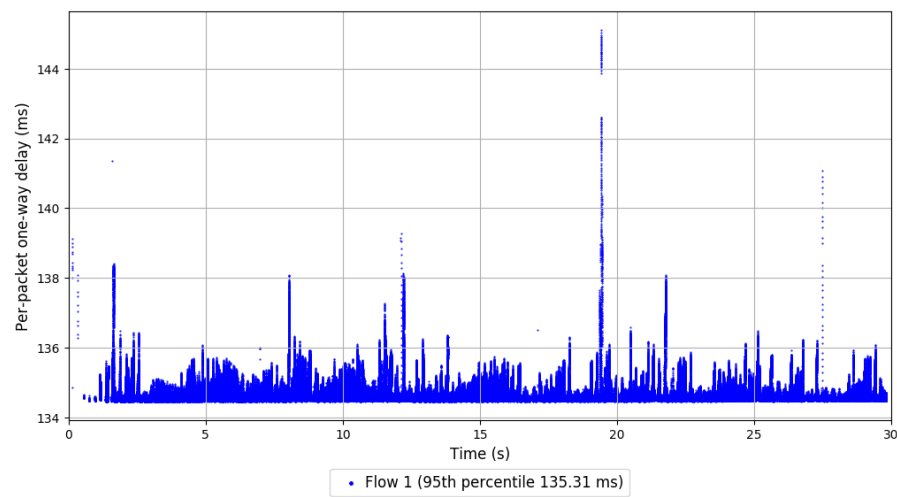
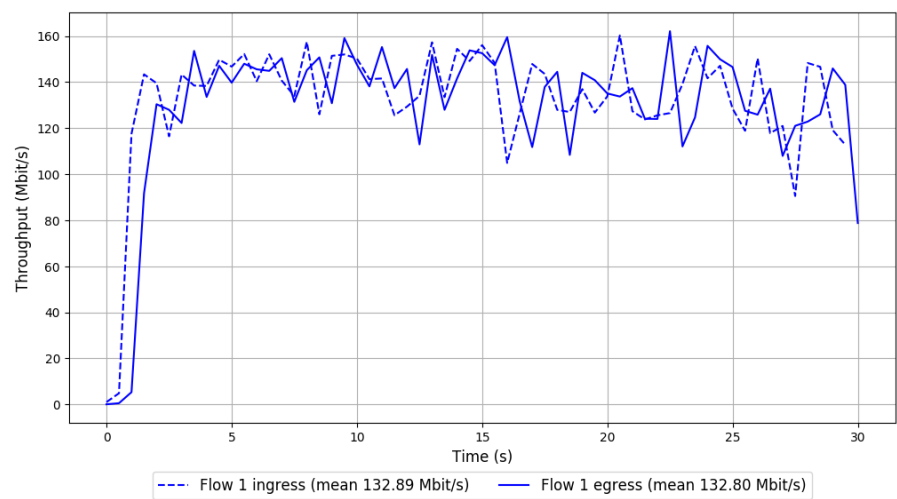


Run 1: Statistics of Indigo

Start at: 2018-09-06 14:12:11
End at: 2018-09-06 14:12:41
Local clock offset: 2.578 ms
Remote clock offset: -39.155 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 132.80 Mbit/s
95th percentile per-packet one-way delay: 135.310 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 132.80 Mbit/s
95th percentile per-packet one-way delay: 135.310 ms
Loss rate: 0.71%

Run 1: Report of Indigo — Data Link

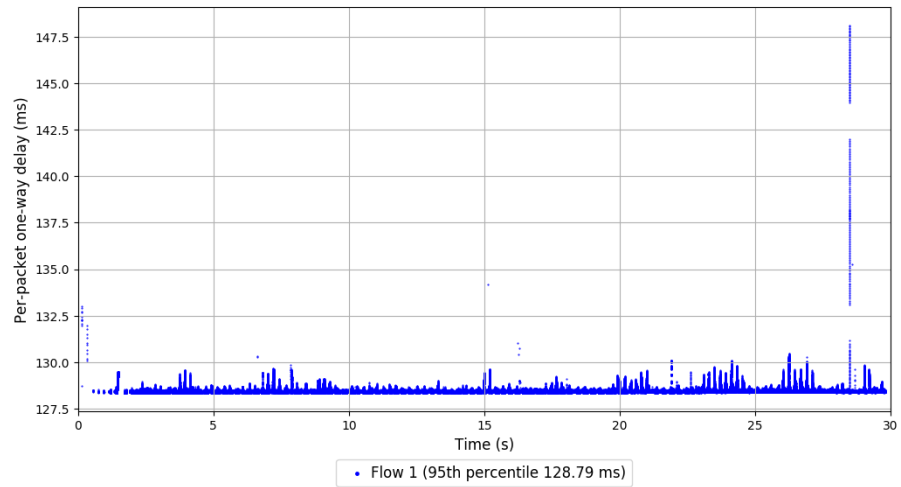
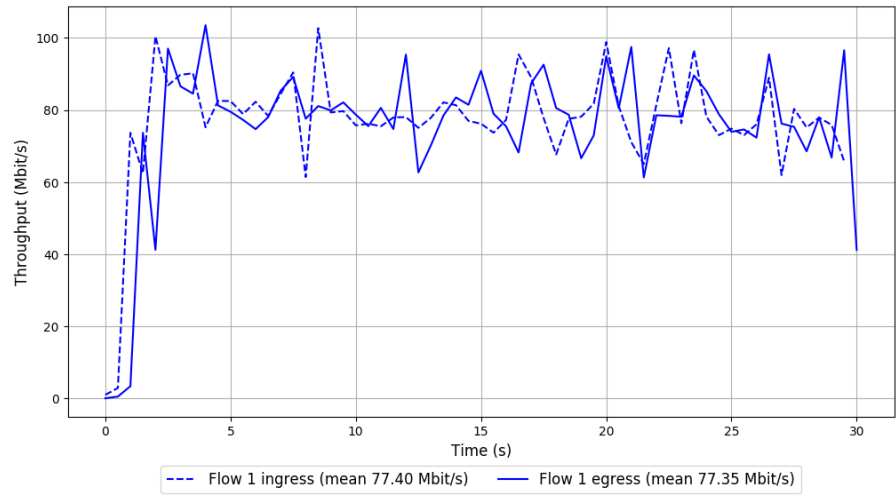


Run 2: Statistics of Indigo

Start at: 2018-09-06 14:36:13
End at: 2018-09-06 14:36:43
Local clock offset: -1.776 ms
Remote clock offset: -34.364 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 77.35 Mbit/s
95th percentile per-packet one-way delay: 128.786 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 77.35 Mbit/s
95th percentile per-packet one-way delay: 128.786 ms
Loss rate: 0.71%

Run 2: Report of Indigo — Data Link

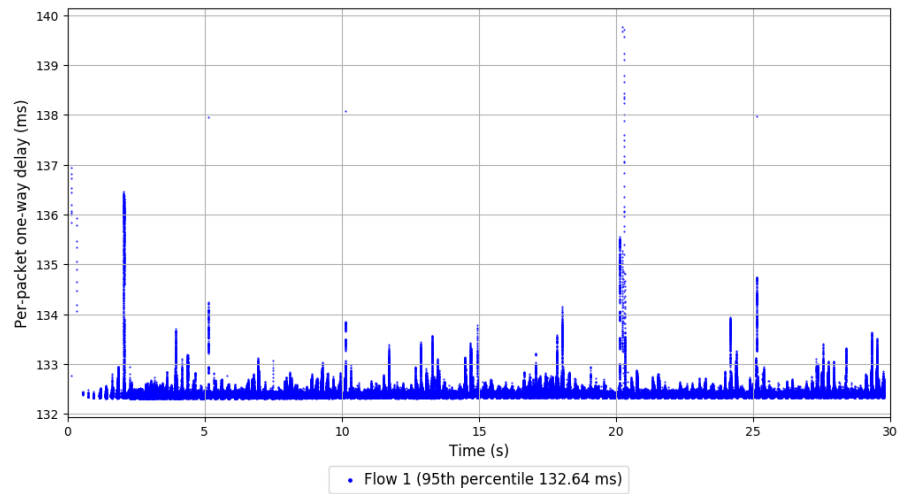
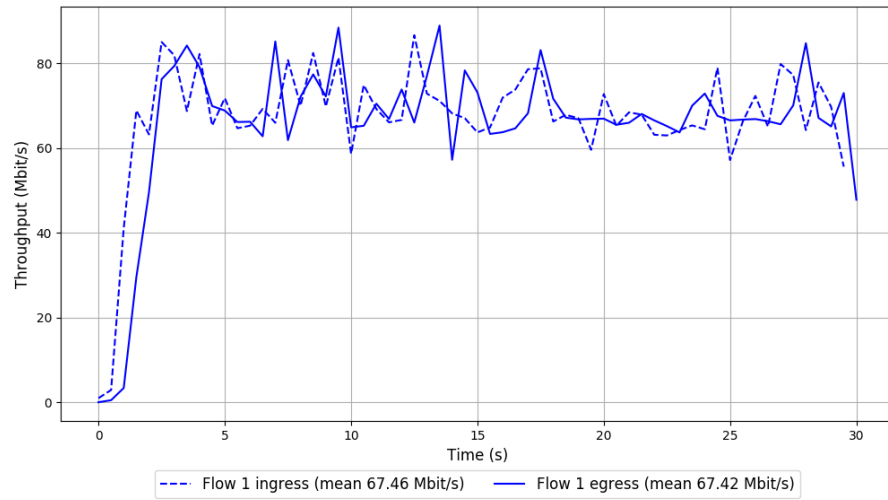


Run 3: Statistics of Indigo

Start at: 2018-09-06 15:00:08
End at: 2018-09-06 15:00:38
Local clock offset: -1.198 ms
Remote clock offset: -36.365 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 67.42 Mbit/s
95th percentile per-packet one-way delay: 132.644 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 67.42 Mbit/s
95th percentile per-packet one-way delay: 132.644 ms
Loss rate: 0.71%

Run 3: Report of Indigo — Data Link

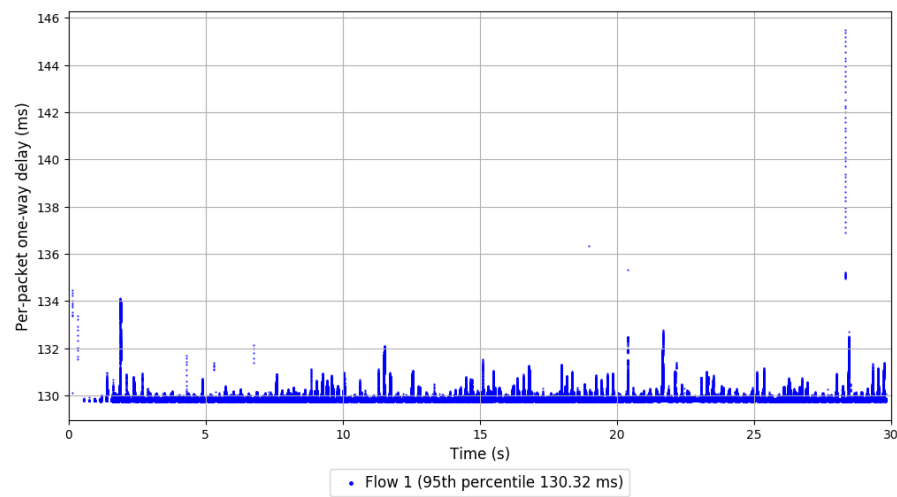
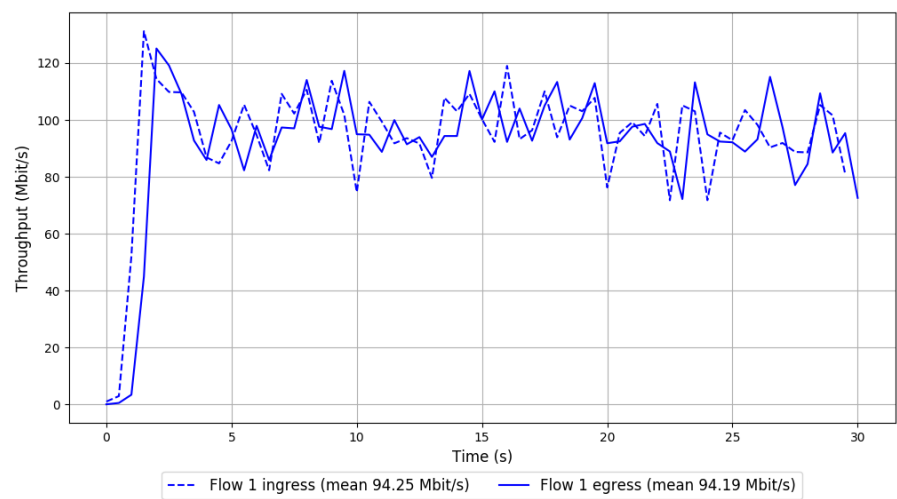


Run 4: Statistics of Indigo

Start at: 2018-09-06 15:29:20
End at: 2018-09-06 15:29:50
Local clock offset: 2.361 ms
Remote clock offset: -30.611 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 130.316 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 130.316 ms
Loss rate: 0.70%

Run 4: Report of Indigo — Data Link

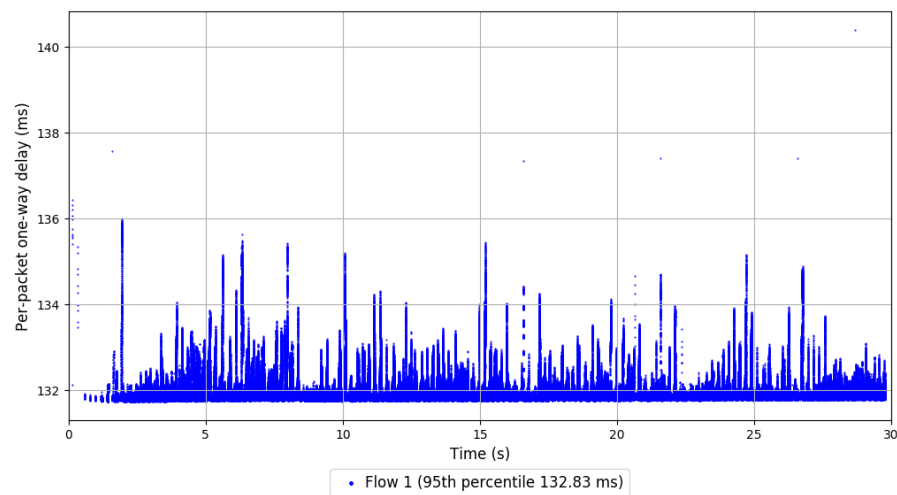
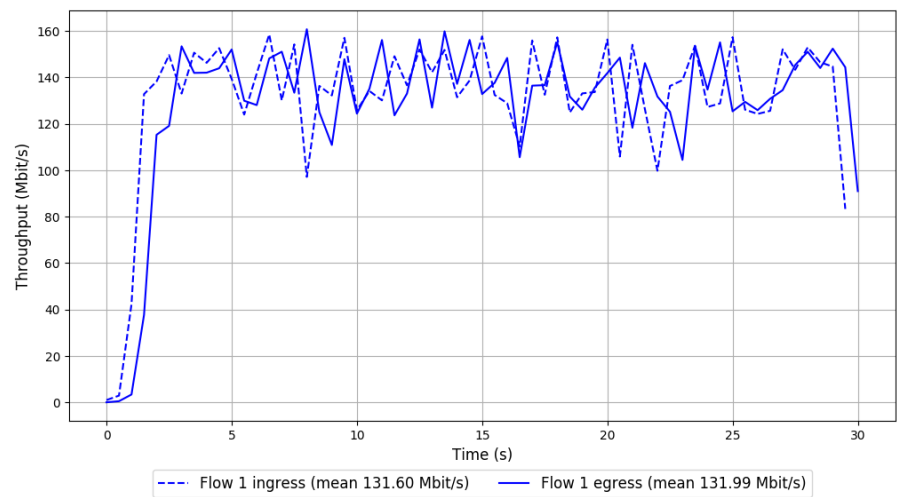


Run 5: Statistics of Indigo

Start at: 2018-09-06 15:53:09
End at: 2018-09-06 15:53:39
Local clock offset: 2.642 ms
Remote clock offset: -31.754 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 131.99 Mbit/s
95th percentile per-packet one-way delay: 132.832 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 131.99 Mbit/s
95th percentile per-packet one-way delay: 132.832 ms
Loss rate: 0.36%

Run 5: Report of Indigo — Data Link

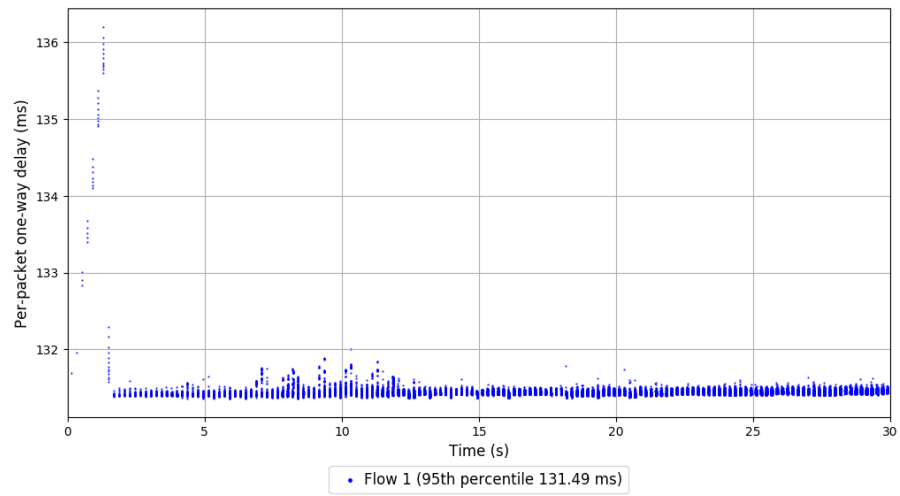
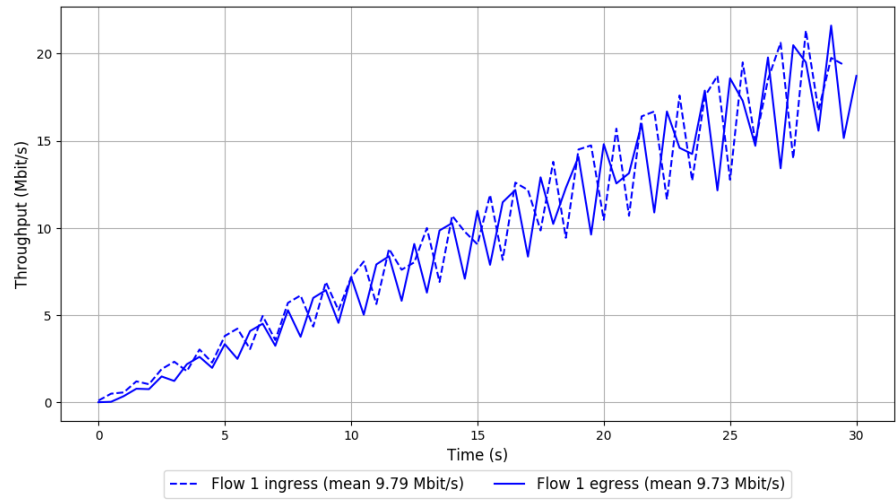


Run 1: Statistics of LEDBAT

Start at: 2018-09-06 14:18:41
End at: 2018-09-06 14:19:11
Local clock offset: 2.223 ms
Remote clock offset: -35.91 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 131.493 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 131.493 ms
Loss rate: 1.28%

Run 1: Report of LEDBAT — Data Link

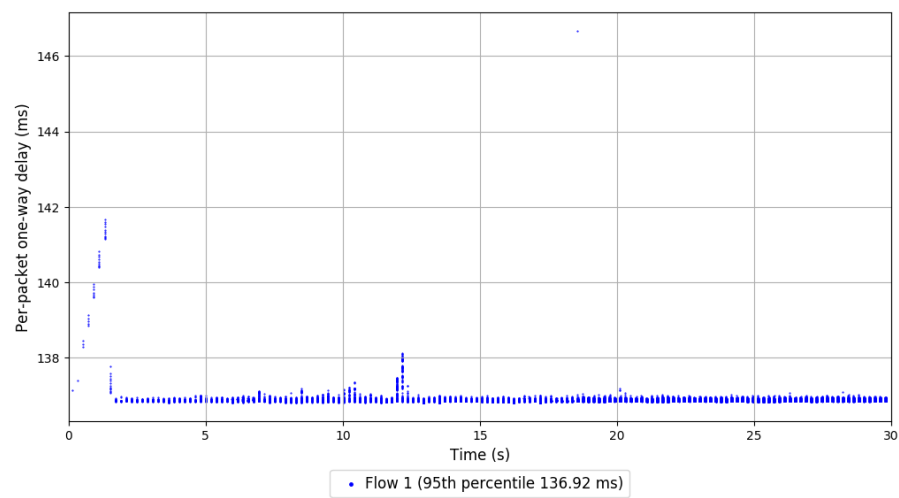
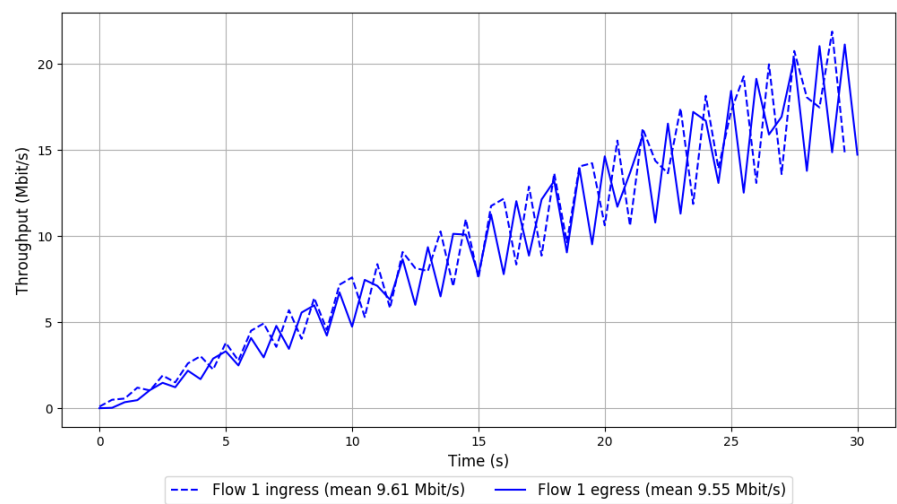


Run 2: Statistics of LEDBAT

Start at: 2018-09-06 14:42:41
End at: 2018-09-06 14:43:11
Local clock offset: 3.185 ms
Remote clock offset: -37.532 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 136.920 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 136.920 ms
Loss rate: 1.29%

Run 2: Report of LEDBAT — Data Link

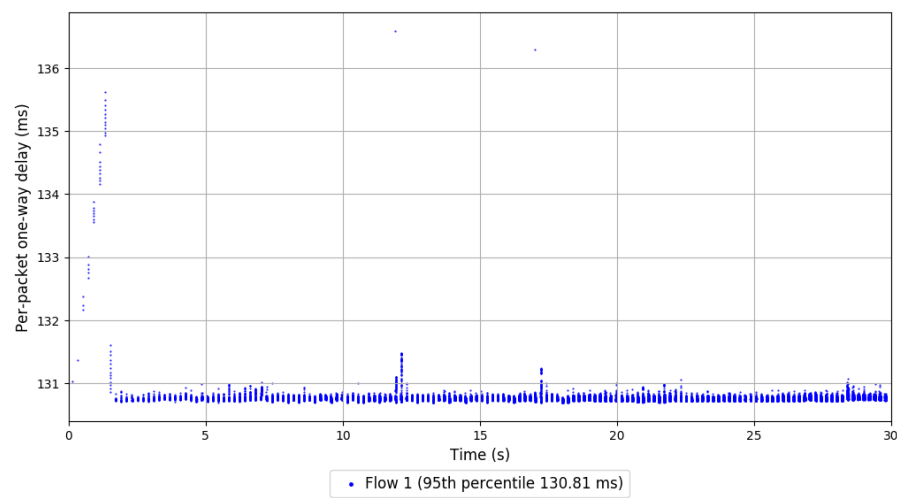
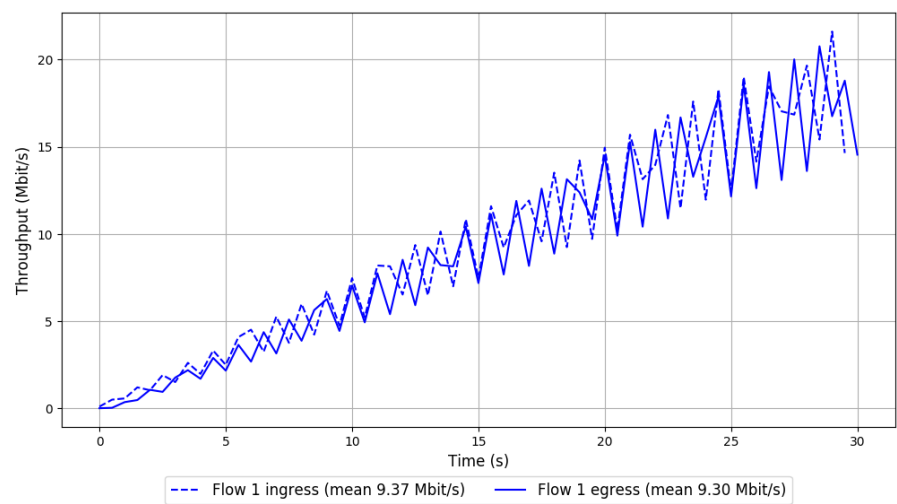


Run 3: Statistics of LEDBAT

Start at: 2018-09-06 15:06:29
End at: 2018-09-06 15:06:59
Local clock offset: 0.739 ms
Remote clock offset: -33.013 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 130.807 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 130.807 ms
Loss rate: 1.31%

Run 3: Report of LEDBAT — Data Link

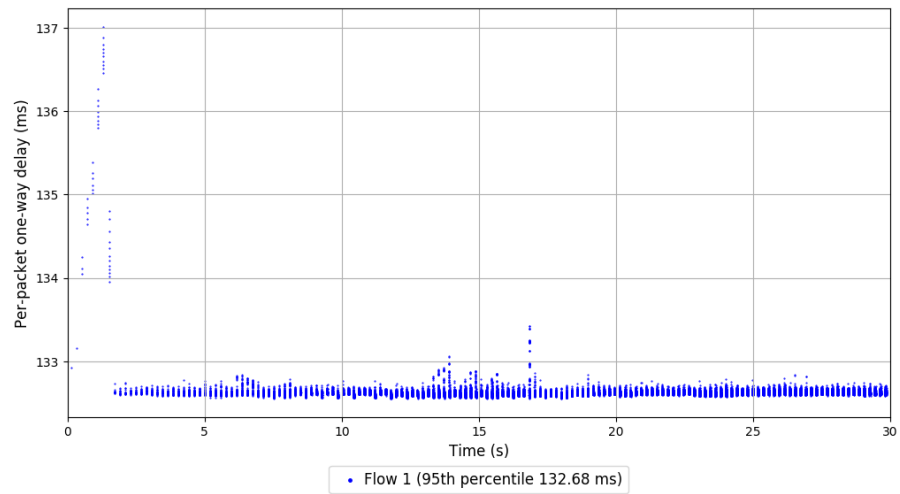
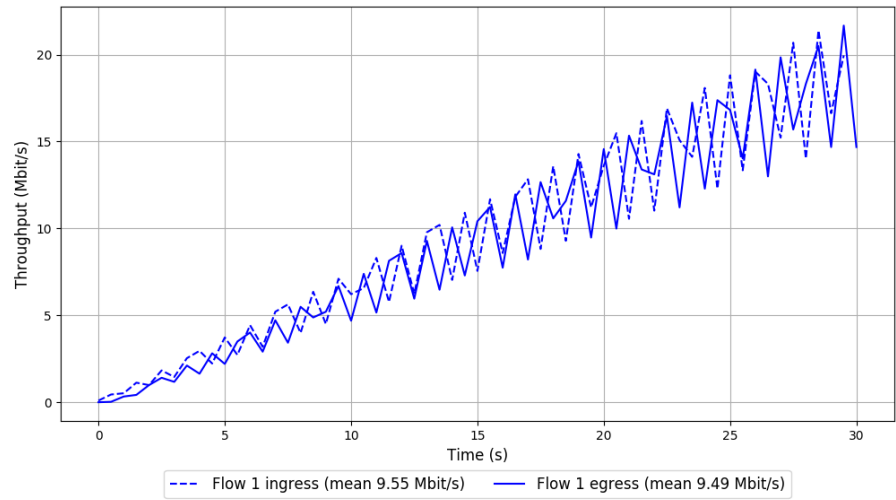


Run 4: Statistics of LEDBAT

Start at: 2018-09-06 15:35:41
End at: 2018-09-06 15:36:11
Local clock offset: -0.18 ms
Remote clock offset: -36.051 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 132.675 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 132.675 ms
Loss rate: 1.30%

Run 4: Report of LEDBAT — Data Link

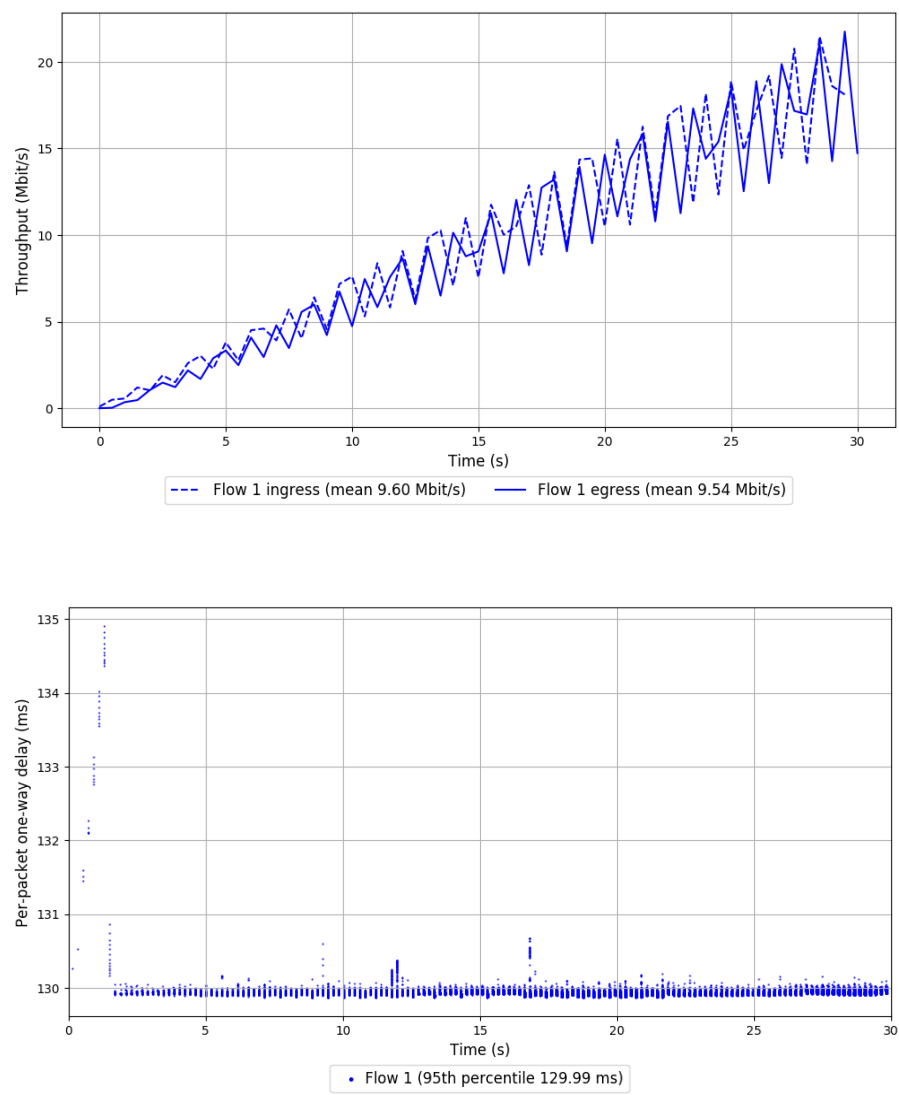


Run 5: Statistics of LEDBAT

Start at: 2018-09-06 15:59:34
End at: 2018-09-06 16:00:04
Local clock offset: 0.407 ms
Remote clock offset: -31.783 ms

Below is generated by plot.py at 2018-09-06 16:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.54 Mbit/s
95th percentile per-packet one-way delay: 129.986 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 9.54 Mbit/s
95th percentile per-packet one-way delay: 129.986 ms
Loss rate: 1.29%

Run 5: Report of LEDBAT — Data Link

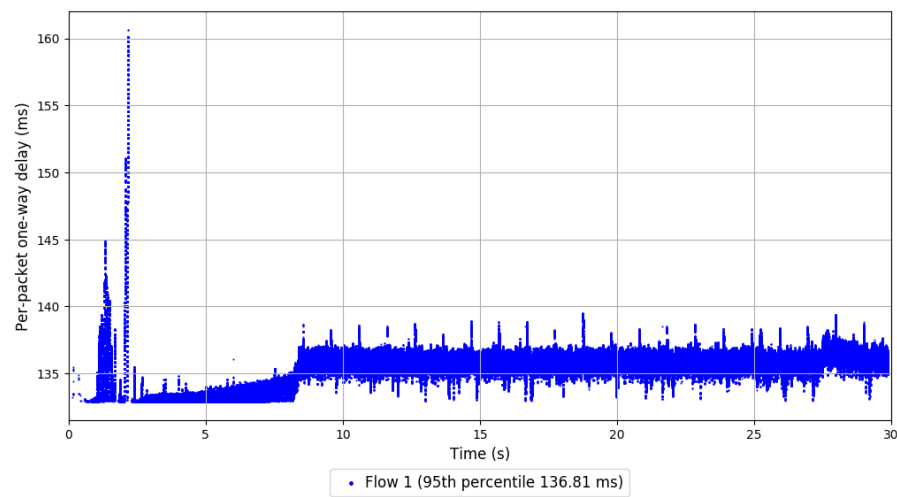
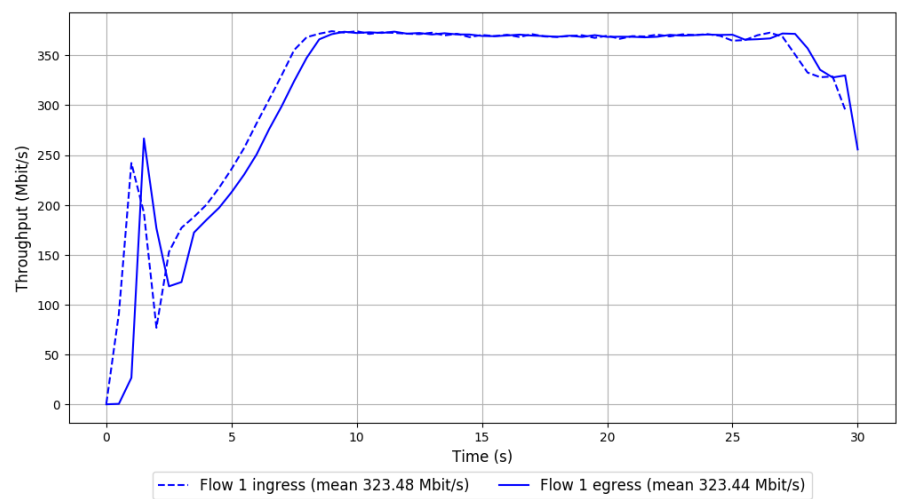


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 14:26:56
End at: 2018-09-06 14:27:26
Local clock offset: 1.345 ms
Remote clock offset: -37.812 ms

# Below is generated by plot.py at 2018-09-06 16:33:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 323.44 Mbit/s
95th percentile per-packet one-way delay: 136.814 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 323.44 Mbit/s
95th percentile per-packet one-way delay: 136.814 ms
Loss rate: 0.67%
```

Run 1: Report of Indigo-Muses — Data Link

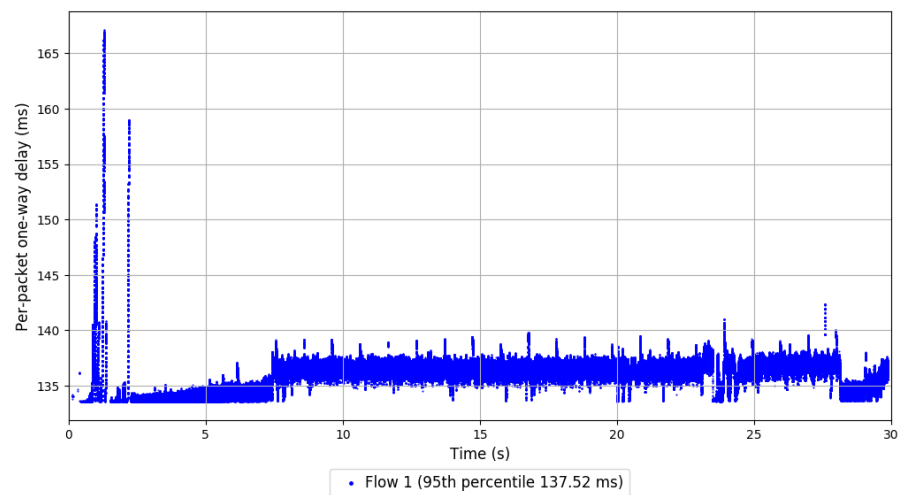
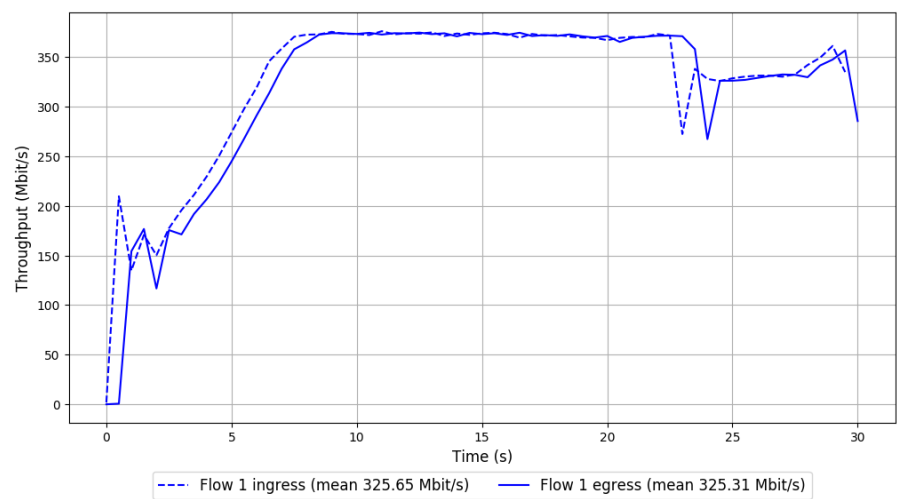


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 14:50:52
End at: 2018-09-06 14:51:22
Local clock offset: 1.691 ms
Remote clock offset: -36.933 ms

Below is generated by plot.py at 2018-09-06 16:33:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 325.31 Mbit/s
95th percentile per-packet one-way delay: 137.519 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 325.31 Mbit/s
95th percentile per-packet one-way delay: 137.519 ms
Loss rate: 0.76%

Run 2: Report of Indigo-Muses — Data Link

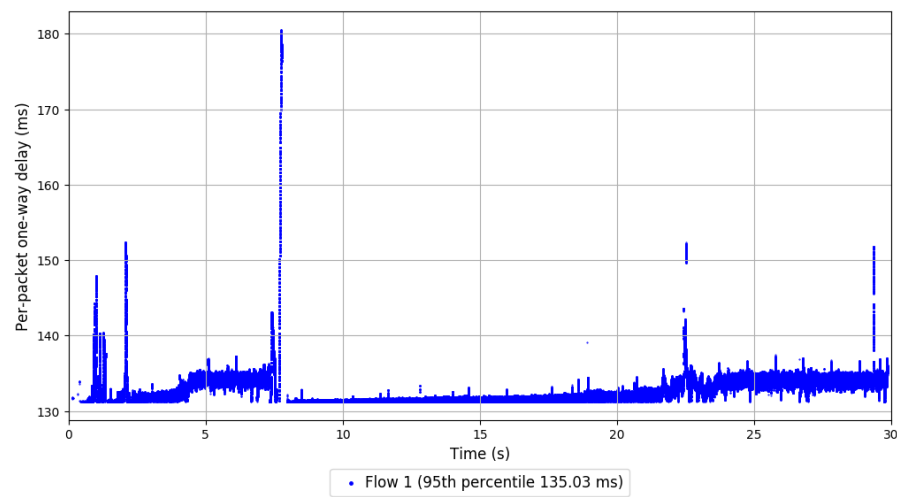
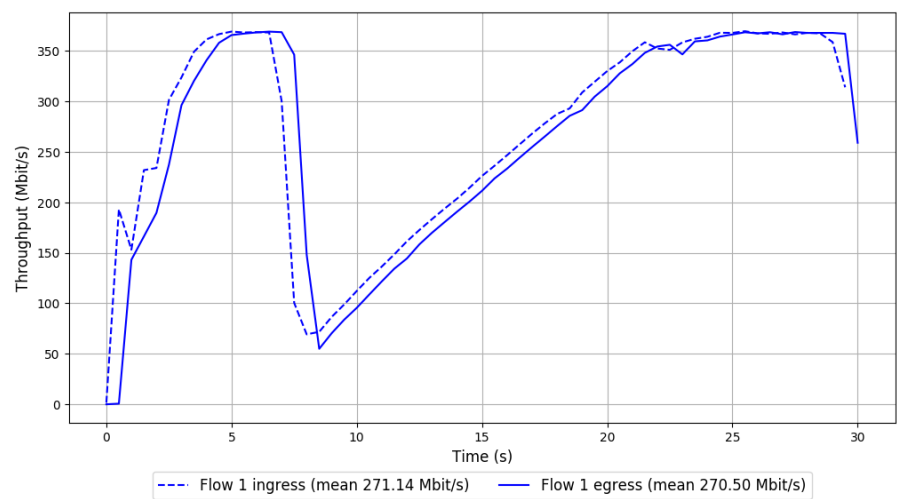


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 15:20:05
End at: 2018-09-06 15:20:35
Local clock offset: -1.174 ms
Remote clock offset: -37.17 ms

Below is generated by plot.py at 2018-09-06 16:33:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 270.50 Mbit/s
95th percentile per-packet one-way delay: 135.032 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 270.50 Mbit/s
95th percentile per-packet one-way delay: 135.032 ms
Loss rate: 0.89%

Run 3: Report of Indigo-Muses — Data Link

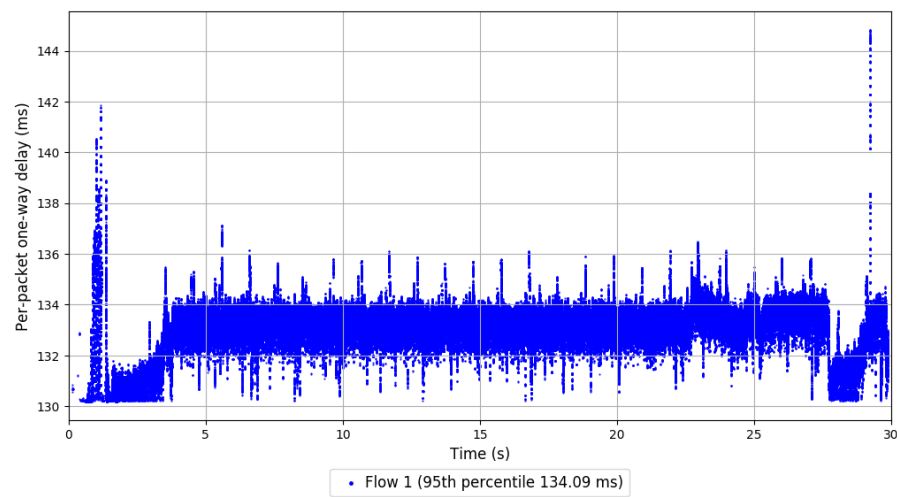
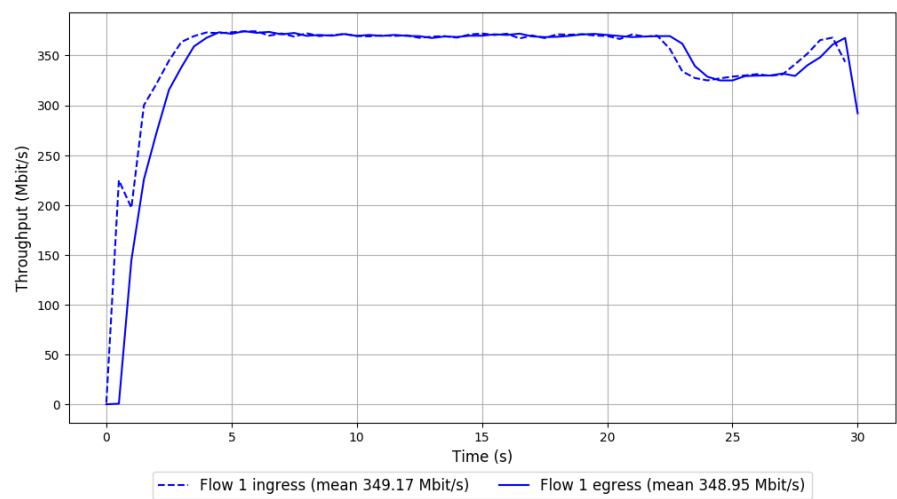


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 15:43:51
End at: 2018-09-06 15:44:21
Local clock offset: 2.69 ms
Remote clock offset: -32.532 ms

Below is generated by plot.py at 2018-09-06 16:34:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 348.95 Mbit/s
95th percentile per-packet one-way delay: 134.088 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 348.95 Mbit/s
95th percentile per-packet one-way delay: 134.088 ms
Loss rate: 0.72%

Run 4: Report of Indigo-Muses — Data Link

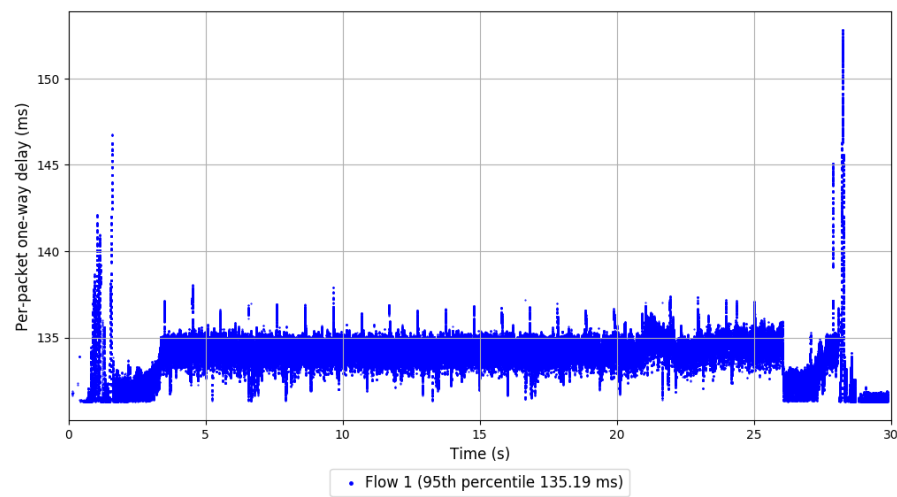
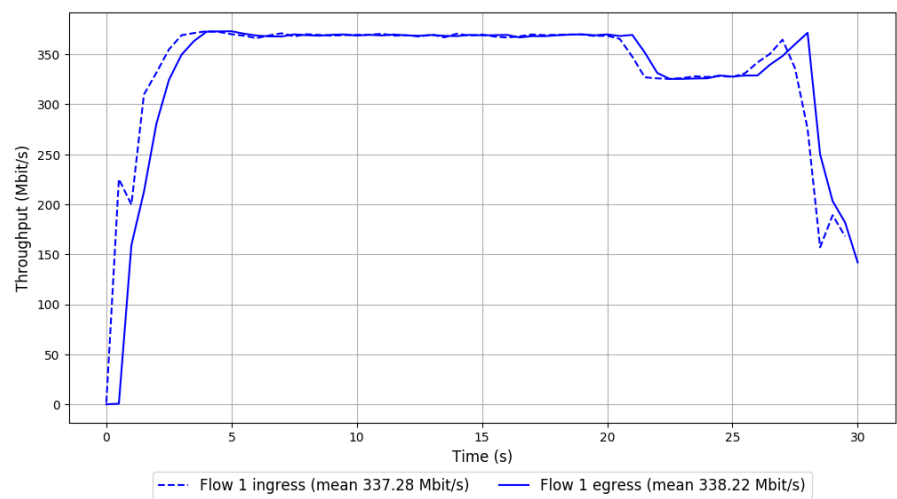


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-06 16:07:52
End at: 2018-09-06 16:08:22
Local clock offset: 2.451 ms
Remote clock offset: -30.863 ms

Below is generated by plot.py at 2018-09-06 16:34:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 338.22 Mbit/s
95th percentile per-packet one-way delay: 135.187 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 338.22 Mbit/s
95th percentile per-packet one-way delay: 135.187 ms
Loss rate: 0.38%

Run 5: Report of Indigo-Muses — Data Link

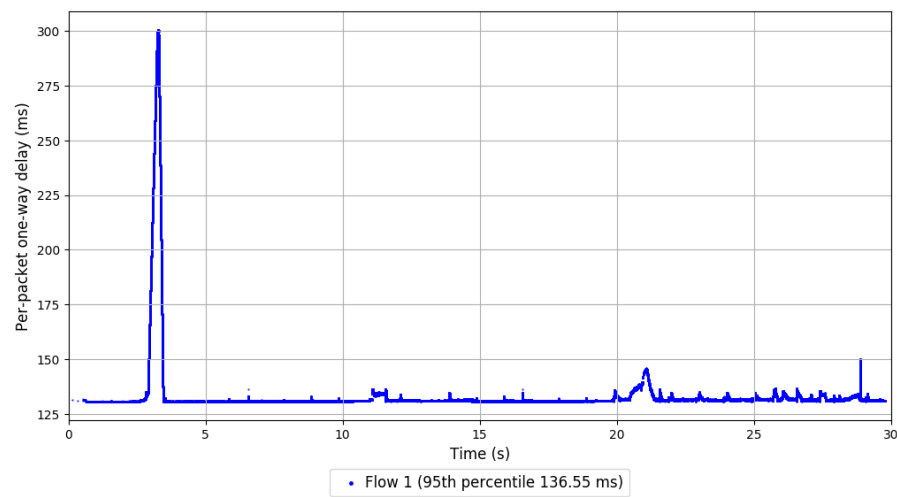
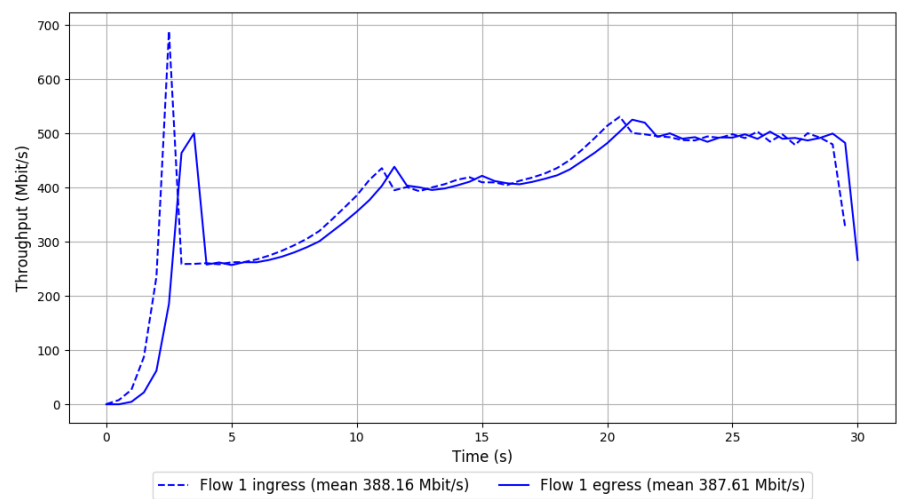


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 14:31:05
End at: 2018-09-06 14:31:35
Local clock offset: 2.222 ms
Remote clock offset: -33.076 ms

# Below is generated by plot.py at 2018-09-06 16:35:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 387.61 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 387.61 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 0.80%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 14:55:00

End at: 2018-09-06 14:55:30

Local clock offset: 0.721 ms

Remote clock offset: -31.805 ms

Below is generated by plot.py at 2018-09-06 16:35:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 399.81 Mbit/s

95th percentile per-packet one-way delay: 148.726 ms

Loss rate: 0.85%

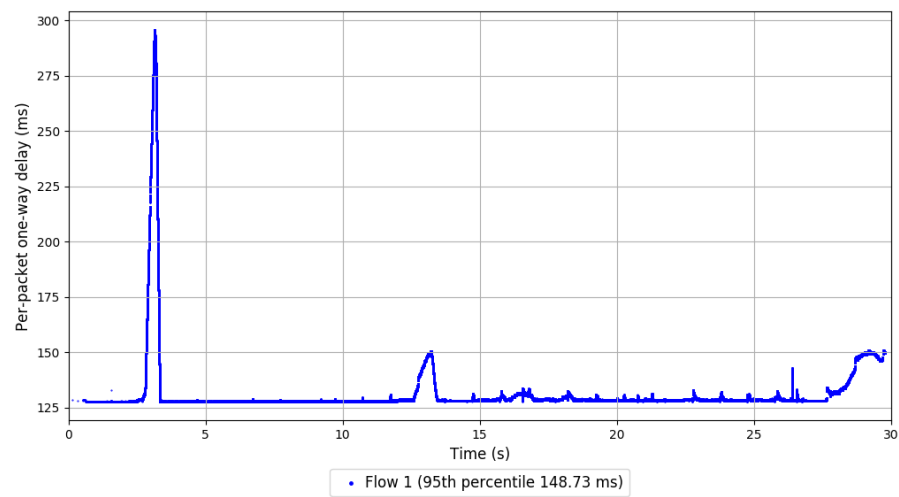
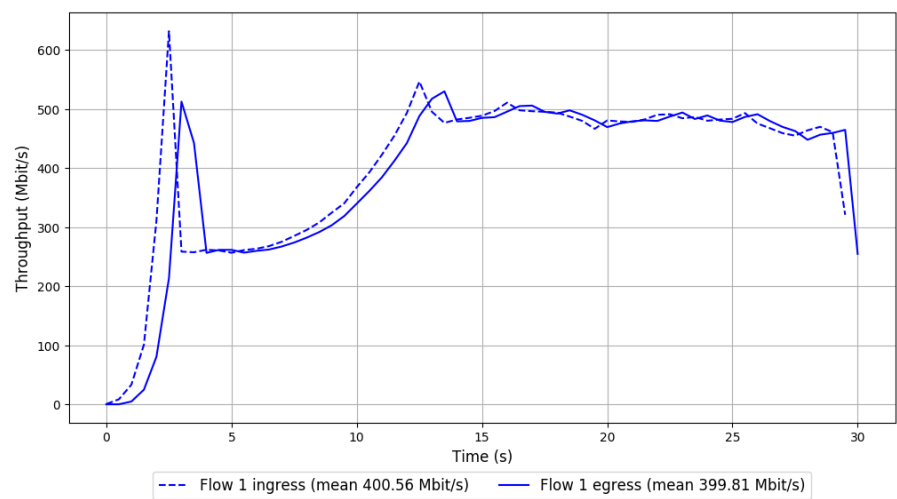
-- Flow 1:

Average throughput: 399.81 Mbit/s

95th percentile per-packet one-way delay: 148.726 ms

Loss rate: 0.85%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 15:24:13

End at: 2018-09-06 15:24:43

Local clock offset: 1.427 ms

Remote clock offset: -33.597 ms

Below is generated by plot.py at 2018-09-06 16:37:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 363.05 Mbit/s

95th percentile per-packet one-way delay: 134.287 ms

Loss rate: 0.86%

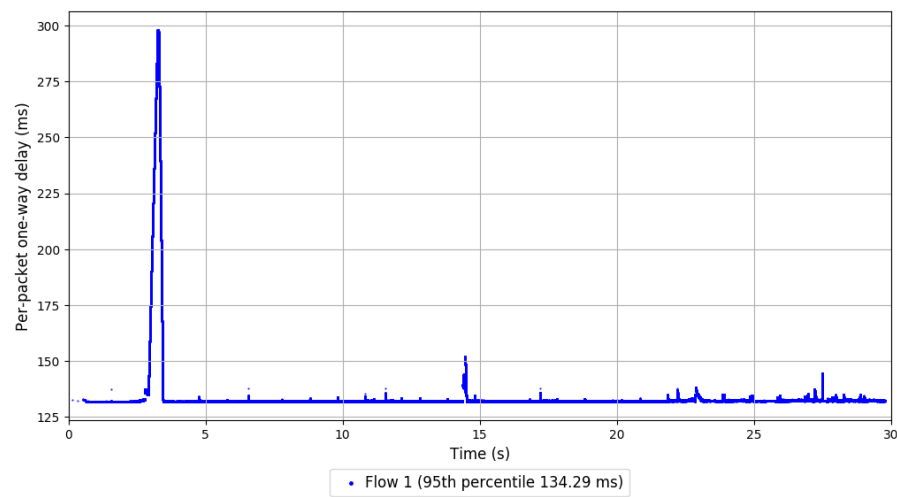
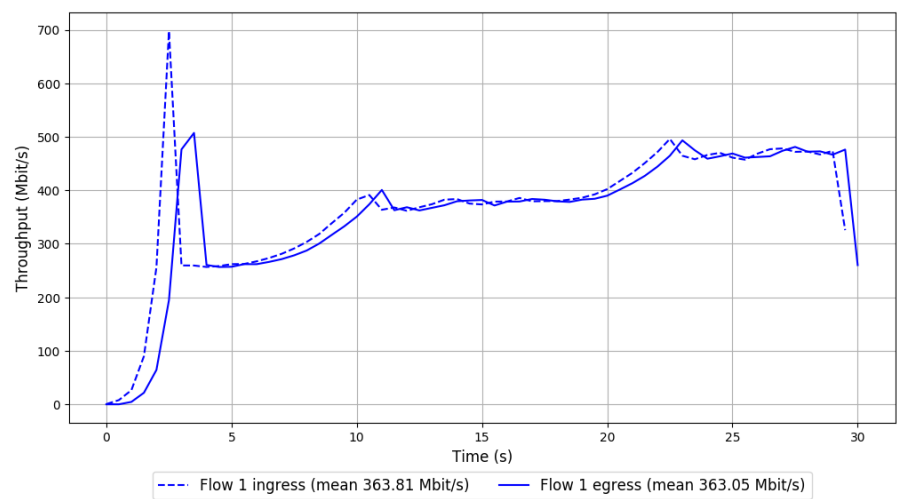
-- Flow 1:

Average throughput: 363.05 Mbit/s

95th percentile per-packet one-way delay: 134.287 ms

Loss rate: 0.86%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 15:48:01

End at: 2018-09-06 15:48:31

Local clock offset: 0.384 ms

Remote clock offset: -36.226 ms

Below is generated by plot.py at 2018-09-06 16:37:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 399.55 Mbit/s

95th percentile per-packet one-way delay: 160.701 ms

Loss rate: 1.04%

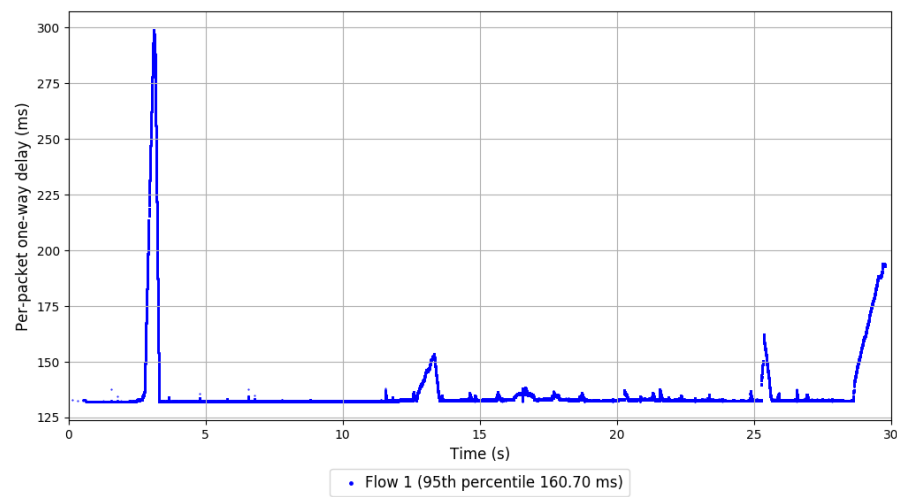
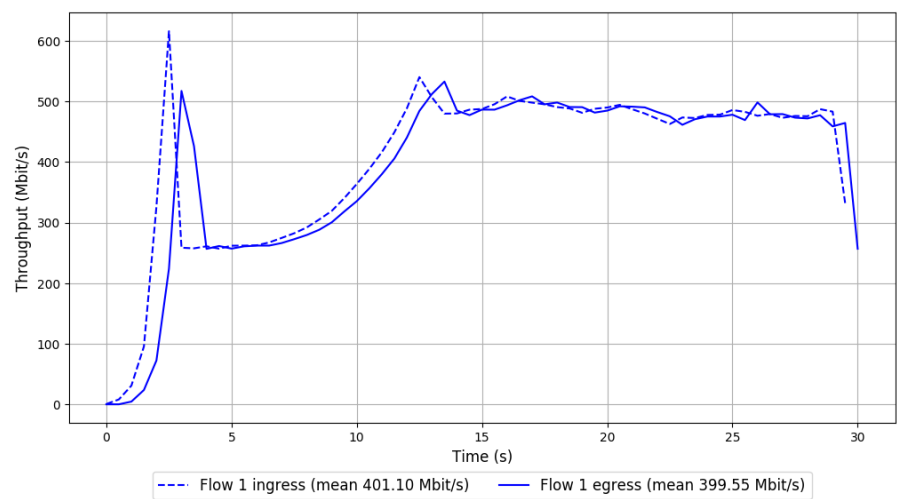
-- Flow 1:

Average throughput: 399.55 Mbit/s

95th percentile per-packet one-way delay: 160.701 ms

Loss rate: 1.04%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 16:12:05

End at: 2018-09-06 16:12:35

Local clock offset: -0.247 ms

Remote clock offset: -32.519 ms

Below is generated by plot.py at 2018-09-06 16:38:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 390.27 Mbit/s

95th percentile per-packet one-way delay: 181.821 ms

Loss rate: 0.88%

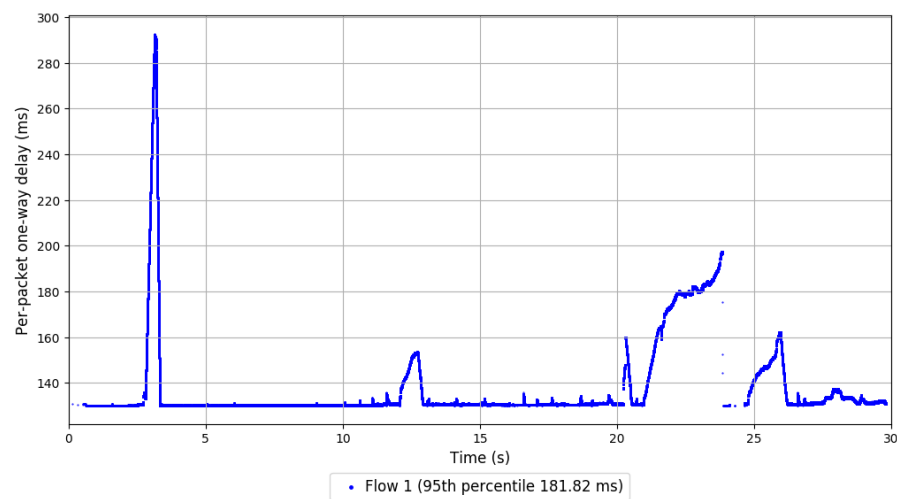
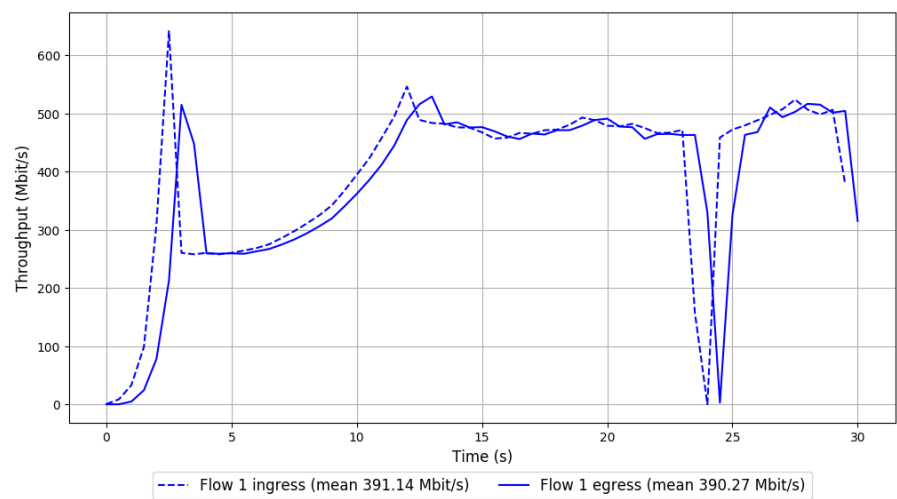
-- Flow 1:

Average throughput: 390.27 Mbit/s

95th percentile per-packet one-way delay: 181.821 ms

Loss rate: 0.88%

Run 5: Report of PCC-Allegro — Data Link

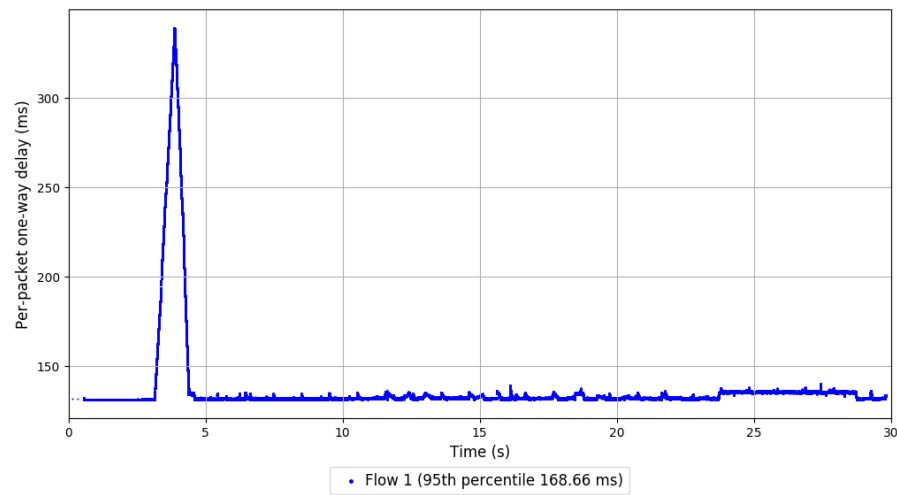
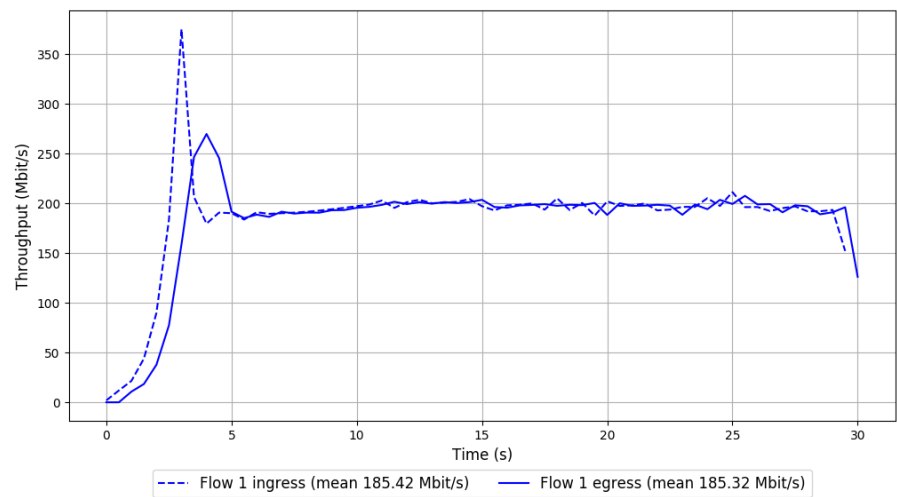


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 14:22:43
End at: 2018-09-06 14:23:13
Local clock offset: 2.783 ms
Remote clock offset: -34.97 ms

# Below is generated by plot.py at 2018-09-06 16:38:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 185.32 Mbit/s
95th percentile per-packet one-way delay: 168.662 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 185.32 Mbit/s
95th percentile per-packet one-way delay: 168.662 ms
Loss rate: 0.70%
```

Run 1: Report of PCC-Expr — Data Link

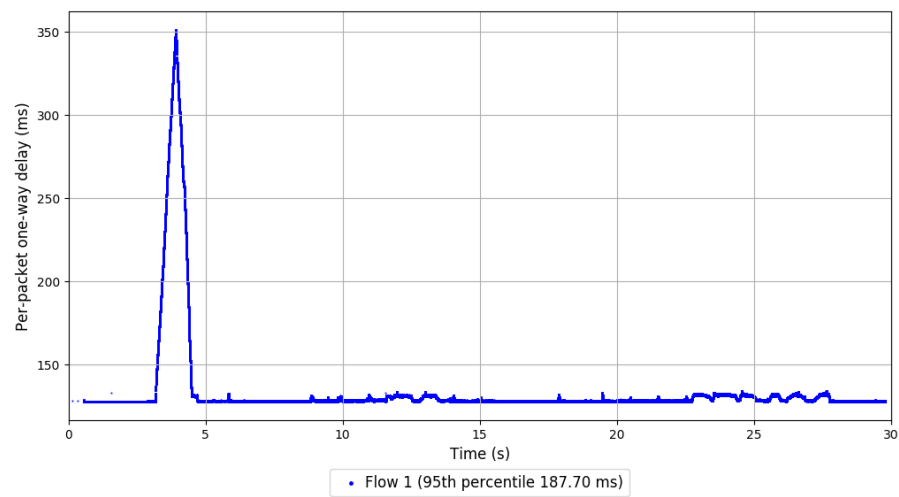
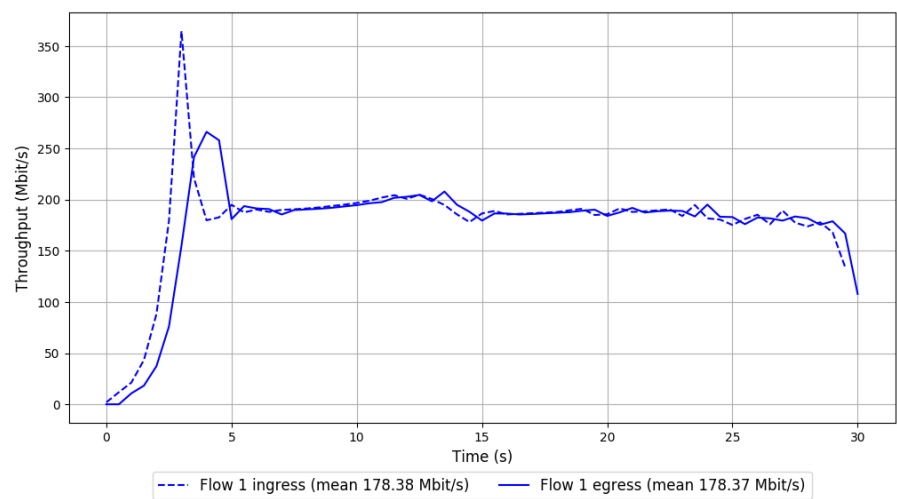


Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 14:46:40
End at: 2018-09-06 14:47:10
Local clock offset: 0.589 ms
Remote clock offset: -30.748 ms

Below is generated by plot.py at 2018-09-06 16:38:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 178.37 Mbit/s
95th percentile per-packet one-way delay: 187.704 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 178.37 Mbit/s
95th percentile per-packet one-way delay: 187.704 ms
Loss rate: 0.66%

Run 2: Report of PCC-Expr — Data Link

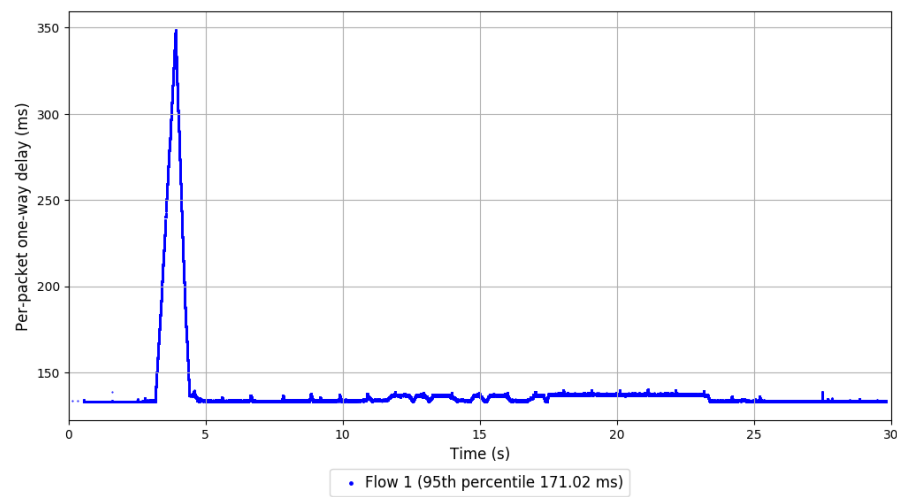
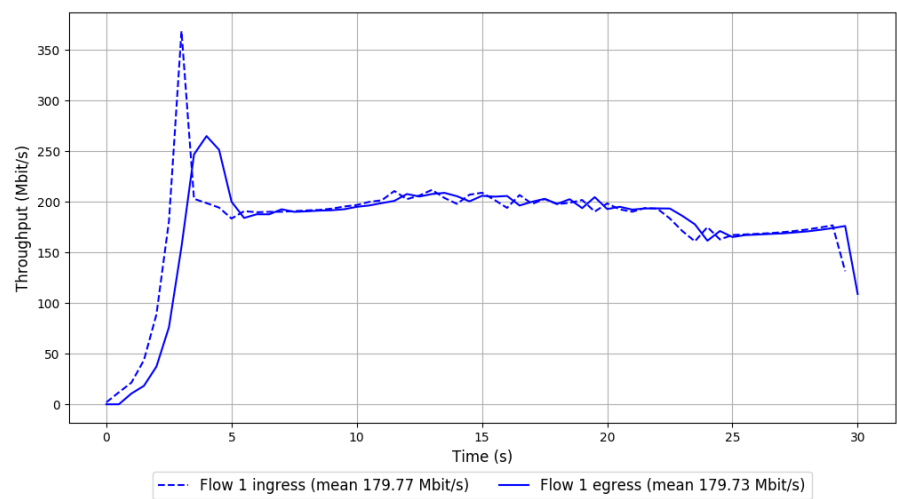


Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 15:15:50
End at: 2018-09-06 15:16:20
Local clock offset: -0.268 ms
Remote clock offset: -36.201 ms

Below is generated by plot.py at 2018-09-06 16:38:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 179.73 Mbit/s
95th percentile per-packet one-way delay: 171.020 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 179.73 Mbit/s
95th percentile per-packet one-way delay: 171.020 ms
Loss rate: 0.68%

Run 3: Report of PCC-Expr — Data Link

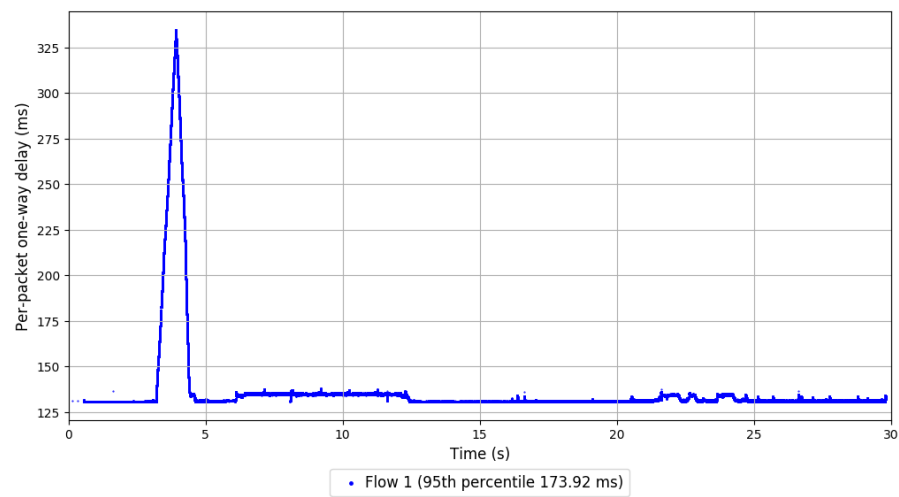
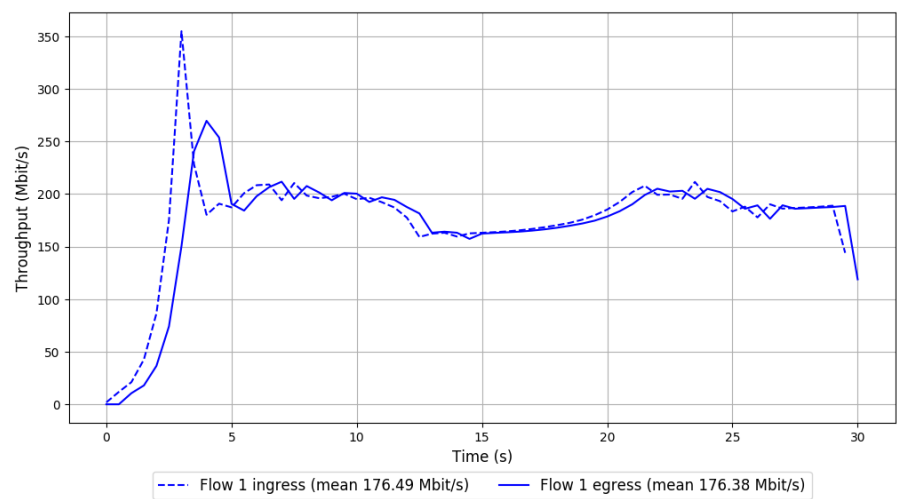


Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 15:39:43
End at: 2018-09-06 15:40:13
Local clock offset: -0.106 ms
Remote clock offset: -34.339 ms

Below is generated by plot.py at 2018-09-06 16:39:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 176.38 Mbit/s
95th percentile per-packet one-way delay: 173.923 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 176.38 Mbit/s
95th percentile per-packet one-way delay: 173.923 ms
Loss rate: 0.71%

Run 4: Report of PCC-Expr — Data Link

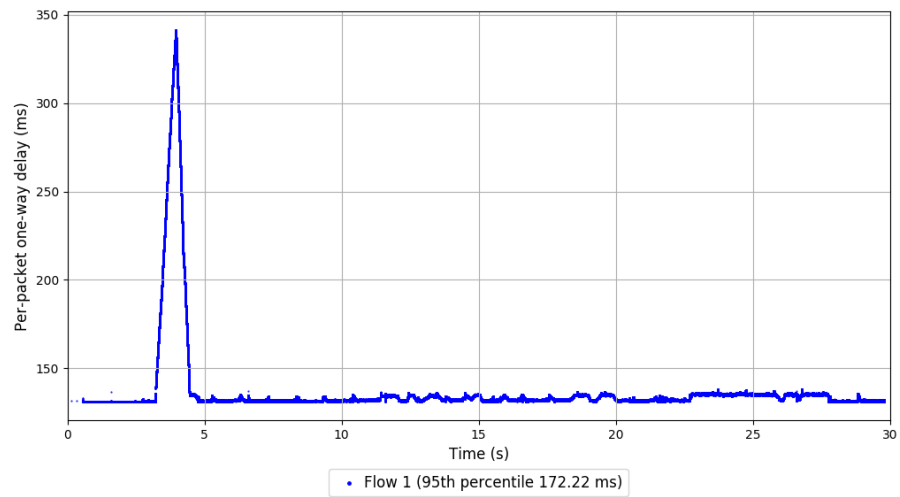
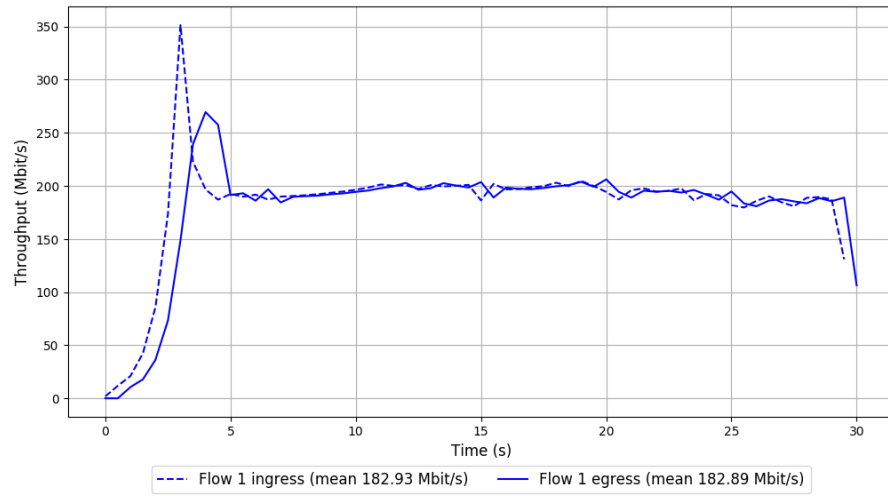


Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 16:03:38
End at: 2018-09-06 16:04:08
Local clock offset: 1.813 ms
Remote clock offset: -31.545 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 182.89 Mbit/s
95th percentile per-packet one-way delay: 172.215 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 182.89 Mbit/s
95th percentile per-packet one-way delay: 172.215 ms
Loss rate: 0.68%

Run 5: Report of PCC-Expr — Data Link

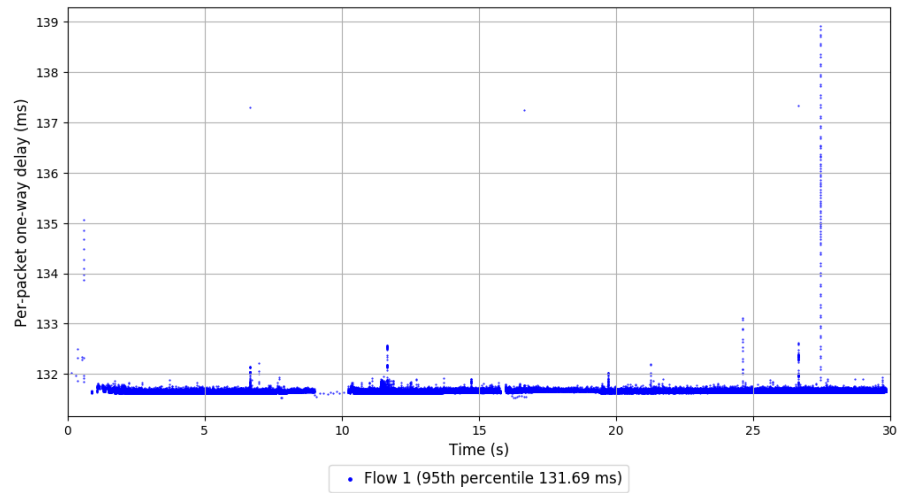
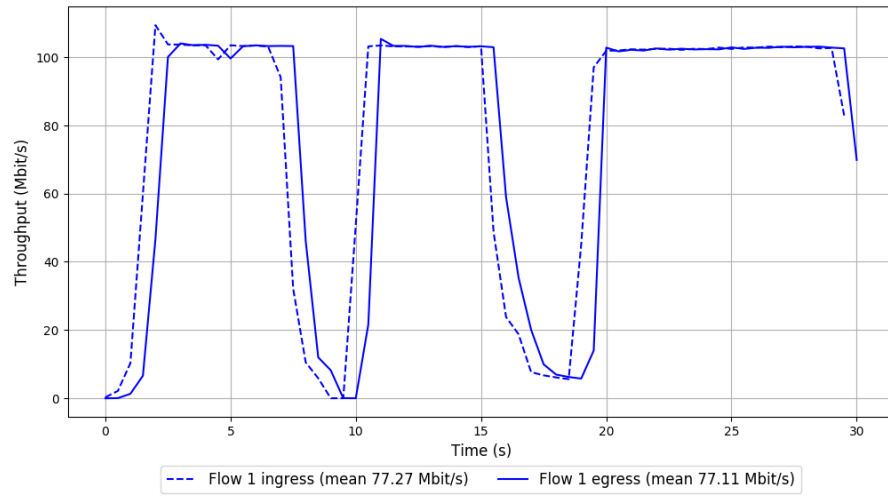


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-06 14:14:40
End at: 2018-09-06 14:15:10
Local clock offset: -1.13 ms
Remote clock offset: -38.197 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 77.11 Mbit/s
95th percentile per-packet one-way delay: 131.686 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 77.11 Mbit/s
95th percentile per-packet one-way delay: 131.686 ms
Loss rate: 0.87%

Run 1: Report of QUIC Cubic — Data Link

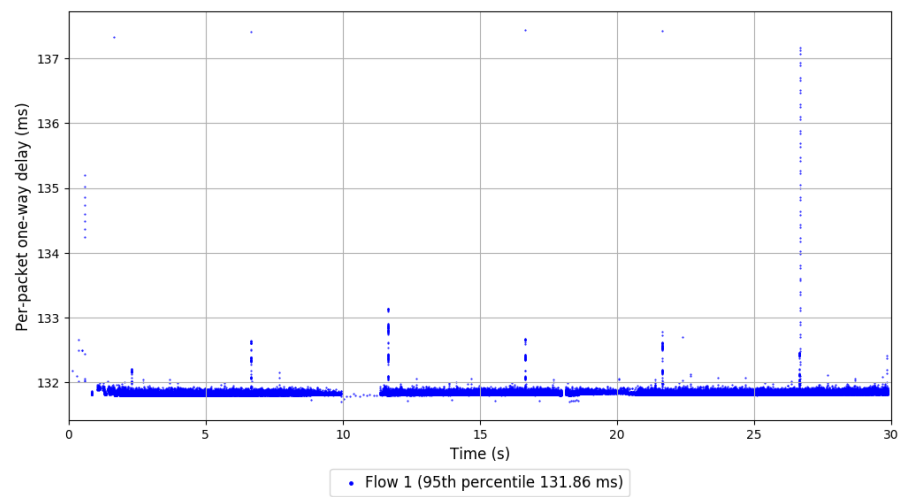
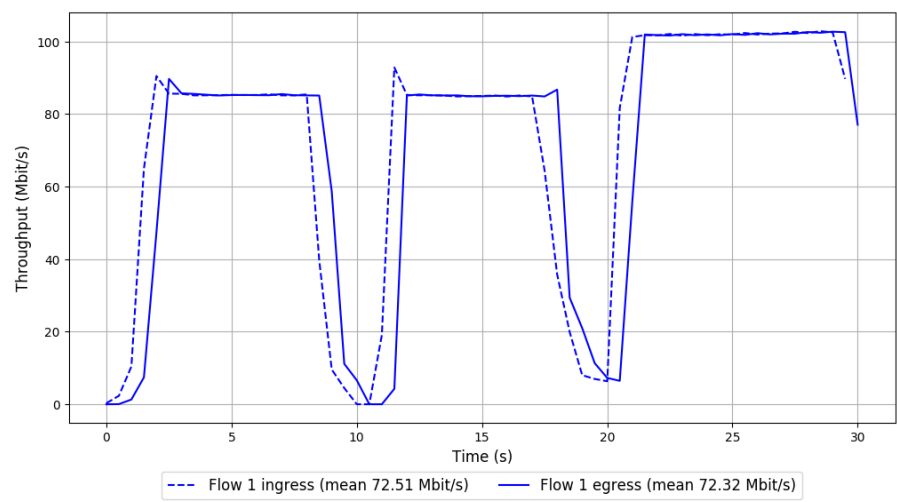


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-06 14:38:39
End at: 2018-09-06 14:39:09
Local clock offset: -1.965 ms
Remote clock offset: -39.388 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 72.32 Mbit/s
95th percentile per-packet one-way delay: 131.863 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 72.32 Mbit/s
95th percentile per-packet one-way delay: 131.863 ms
Loss rate: 0.92%

Run 2: Report of QUIC Cubic — Data Link

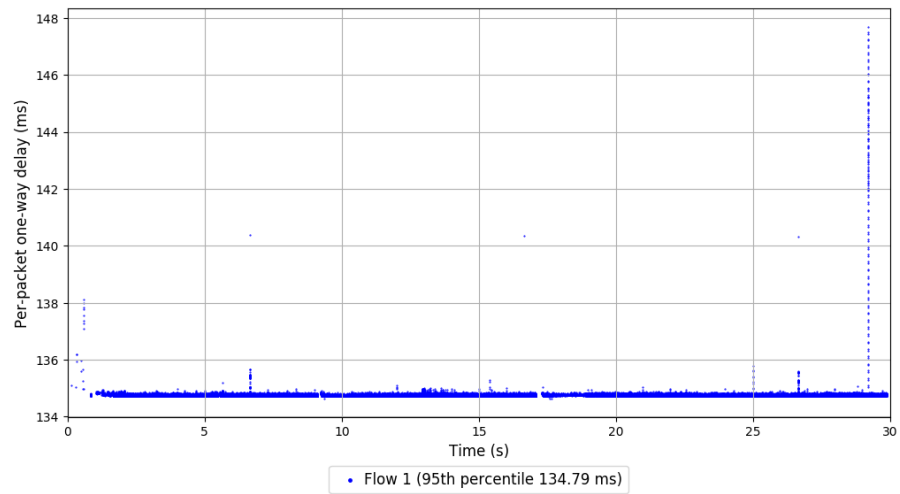
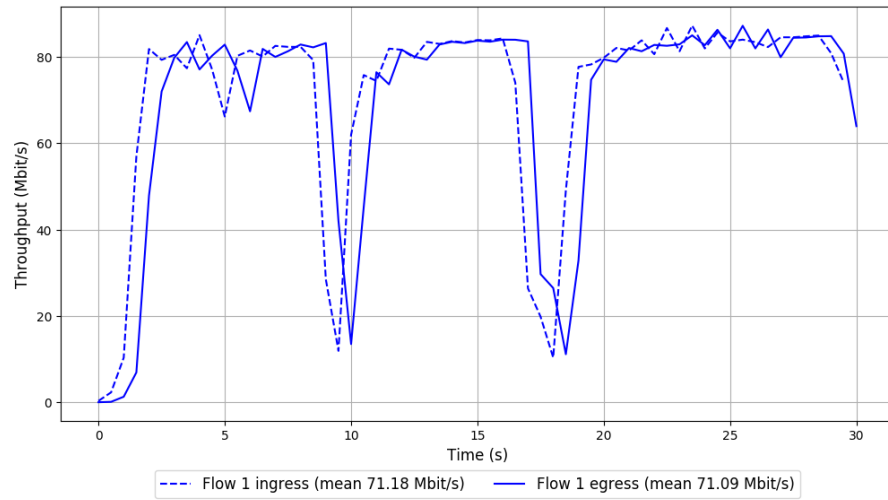


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 15:02:33
End at: 2018-09-06 15:03:03
Local clock offset: 1.964 ms
Remote clock offset: -35.885 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.09 Mbit/s
95th percentile per-packet one-way delay: 134.788 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 71.09 Mbit/s
95th percentile per-packet one-way delay: 134.788 ms
Loss rate: 0.78%

Run 3: Report of QUIC Cubic — Data Link

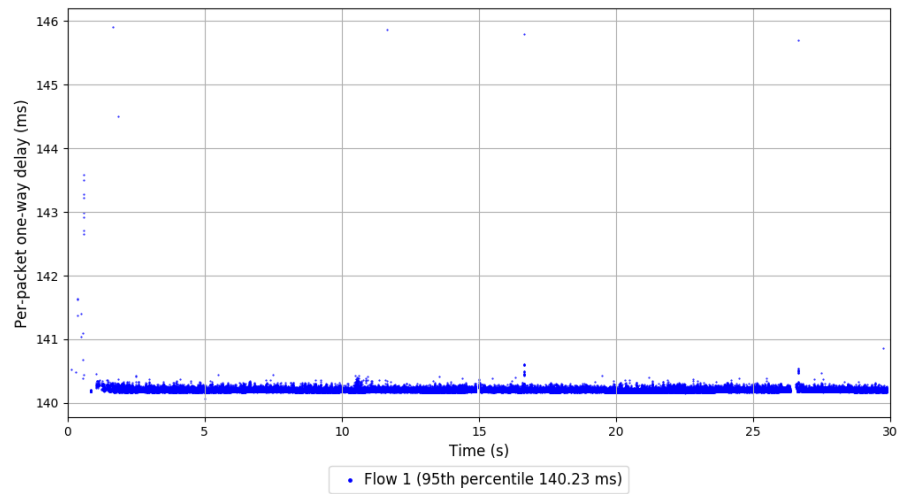
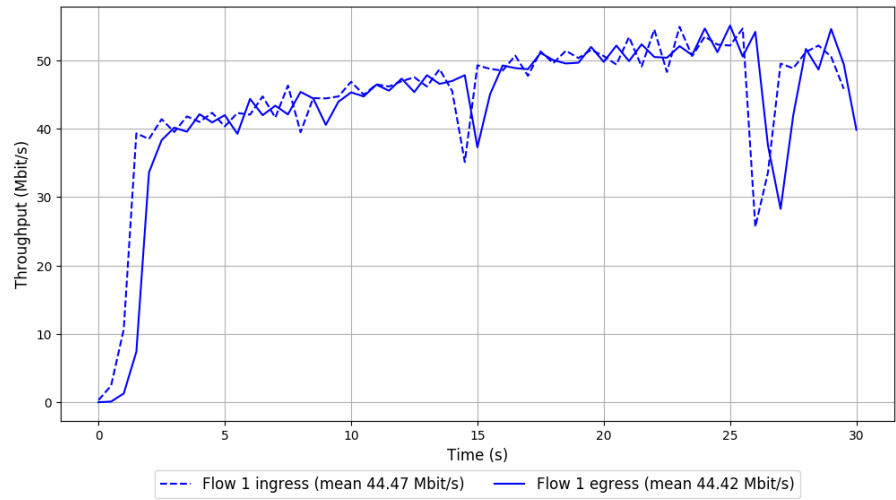


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-06 15:31:47
End at: 2018-09-06 15:32:17
Local clock offset: 3.585 ms
Remote clock offset: -40.036 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 44.42 Mbit/s
95th percentile per-packet one-way delay: 140.232 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 44.42 Mbit/s
95th percentile per-packet one-way delay: 140.232 ms
Loss rate: 0.77%

Run 4: Report of QUIC Cubic — Data Link

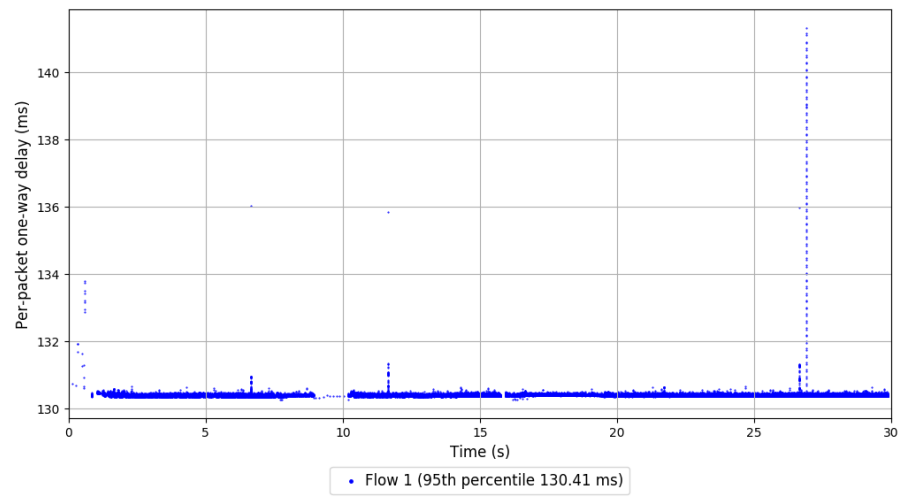
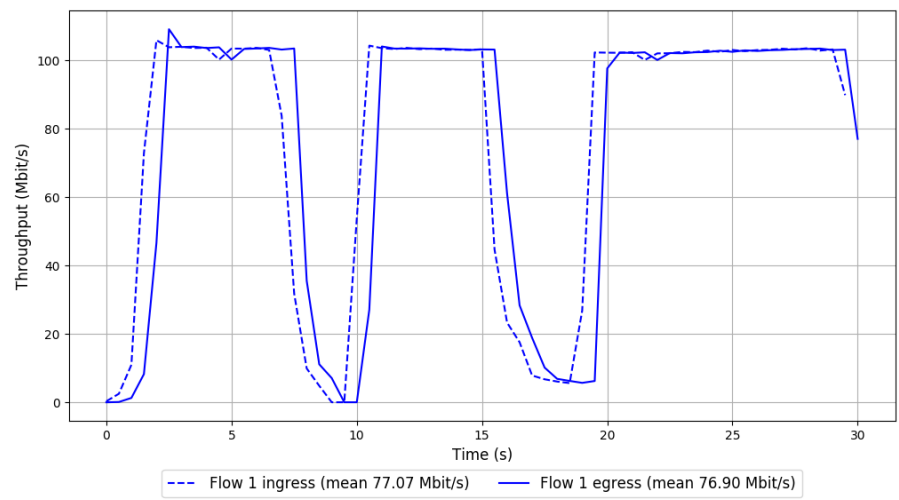


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-06 15:55:38
End at: 2018-09-06 15:56:08
Local clock offset: -1.632 ms
Remote clock offset: -35.969 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 76.90 Mbit/s
95th percentile per-packet one-way delay: 130.411 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 76.90 Mbit/s
95th percentile per-packet one-way delay: 130.411 ms
Loss rate: 0.86%

Run 5: Report of QUIC Cubic — Data Link

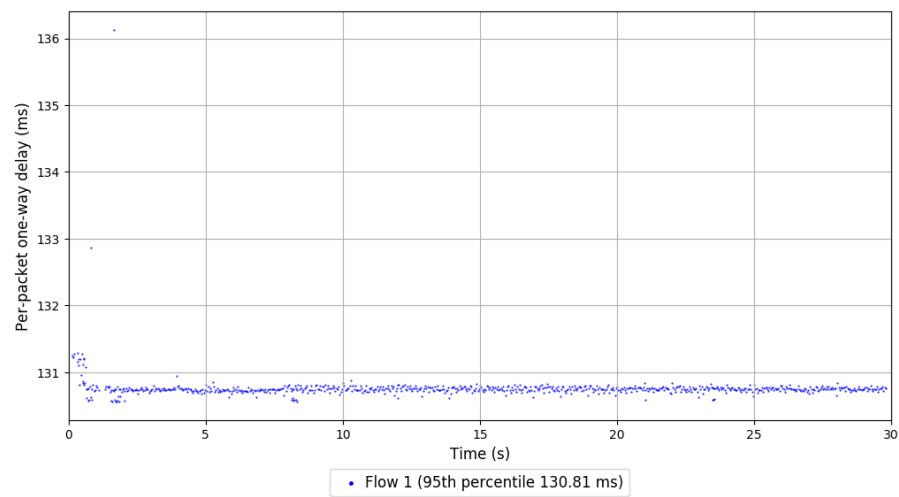
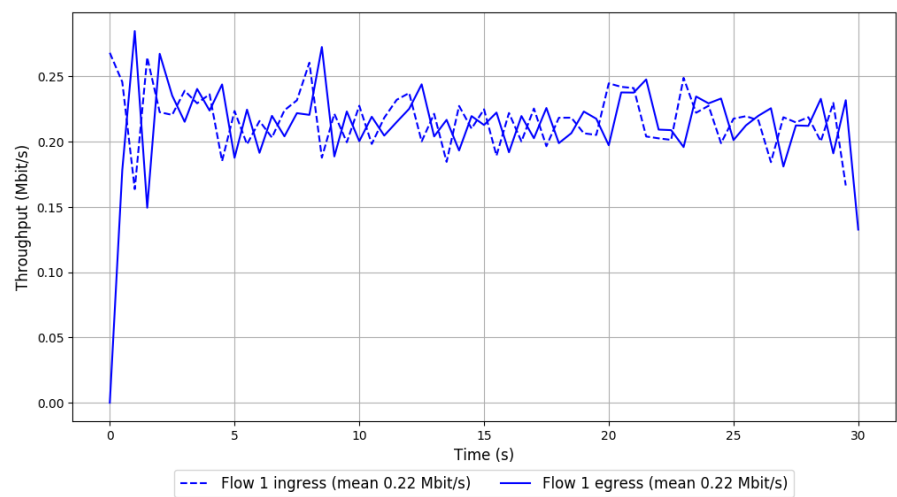


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 14:32:29
End at: 2018-09-06 14:32:59
Local clock offset: -0.536 ms
Remote clock offset: -37.045 ms

# Below is generated by plot.py at 2018-09-06 16:39:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 130.811 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 130.811 ms
Loss rate: 0.64%
```

Run 1: Report of SReAM — Data Link

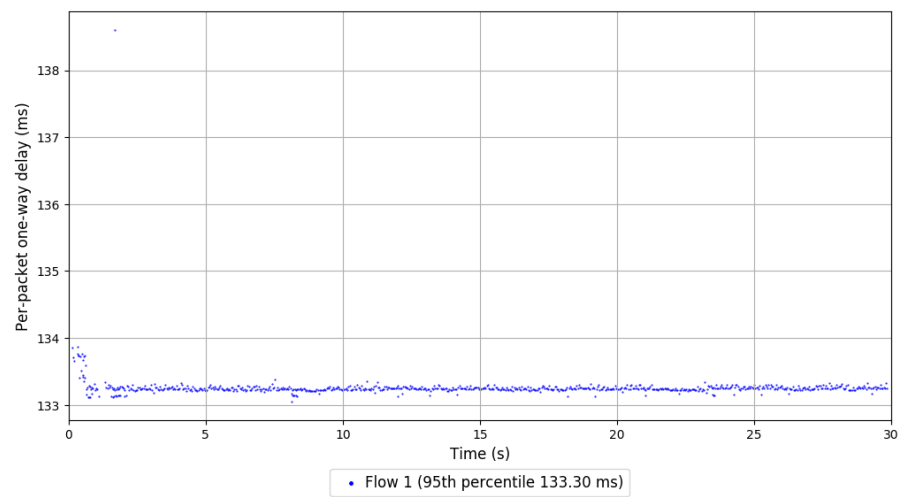
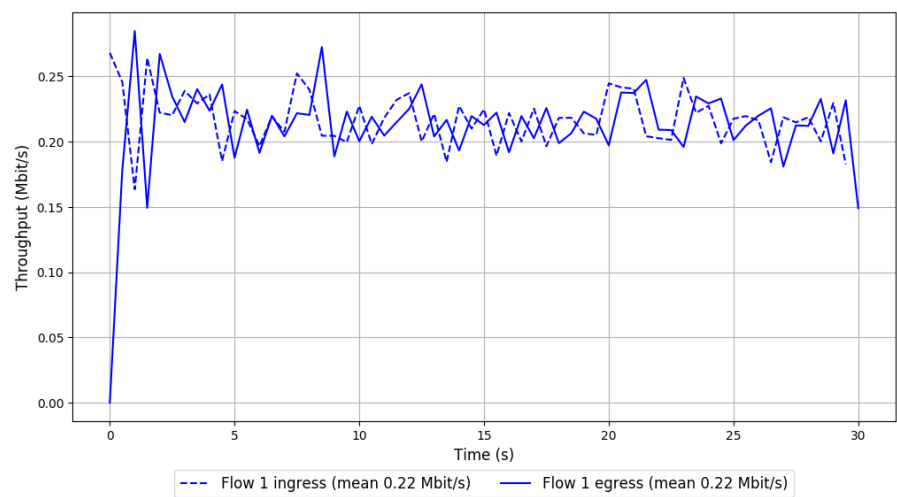


Run 2: Statistics of SCReAM

Start at: 2018-09-06 14:56:24
End at: 2018-09-06 14:56:54
Local clock offset: 1.017 ms
Remote clock offset: -36.812 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.303 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.303 ms
Loss rate: 0.64%

Run 2: Report of SReAM — Data Link

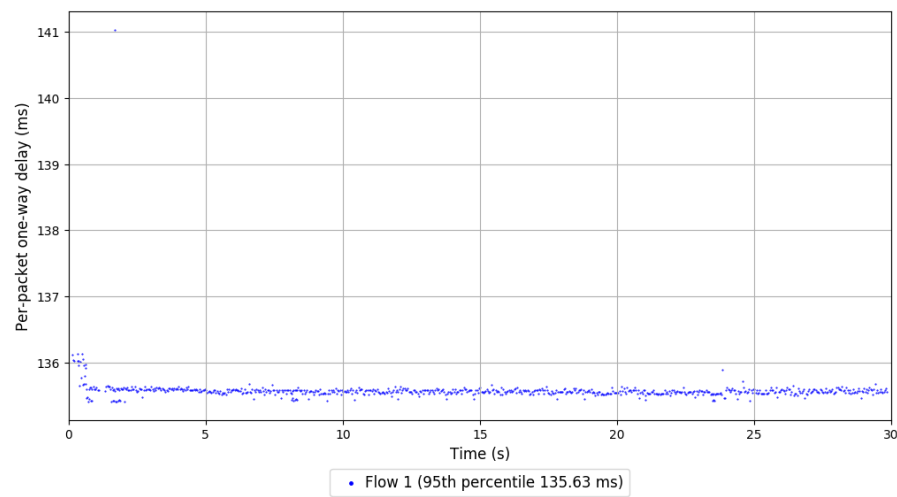
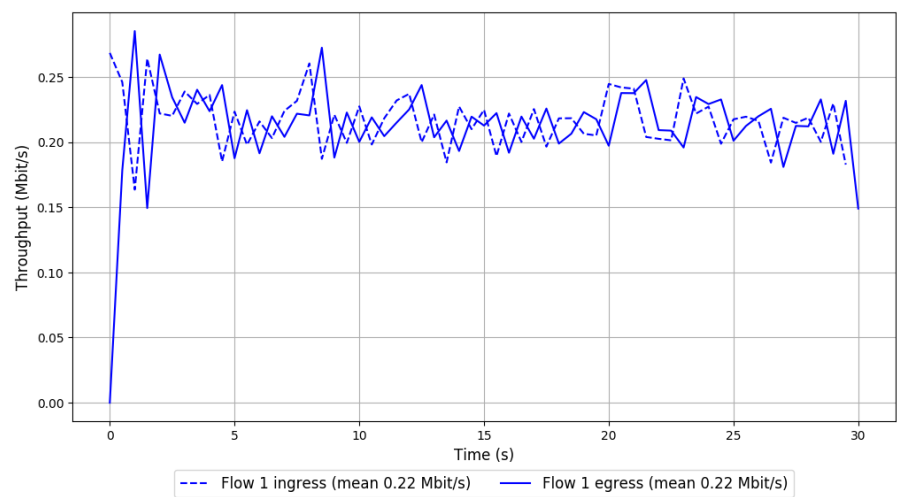


Run 3: Statistics of SCReAM

Start at: 2018-09-06 15:25:36
End at: 2018-09-06 15:26:06
Local clock offset: 2.386 ms
Remote clock offset: -36.418 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.630 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.630 ms
Loss rate: 0.64%

Run 3: Report of SReAM — Data Link

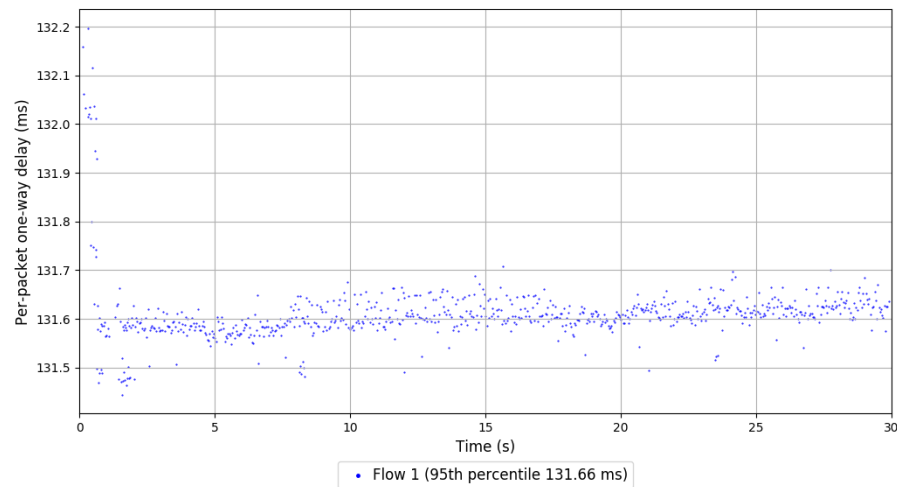
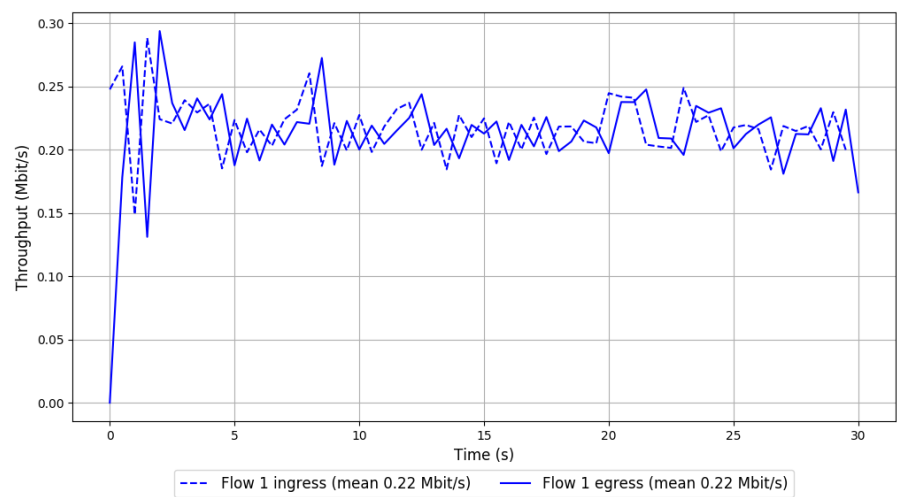


Run 4: Statistics of SCReAM

Start at: 2018-09-06 15:49:25
End at: 2018-09-06 15:49:55
Local clock offset: 2.023 ms
Remote clock offset: -32.147 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.661 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.661 ms
Loss rate: 0.64%

Run 4: Report of SReAM — Data Link

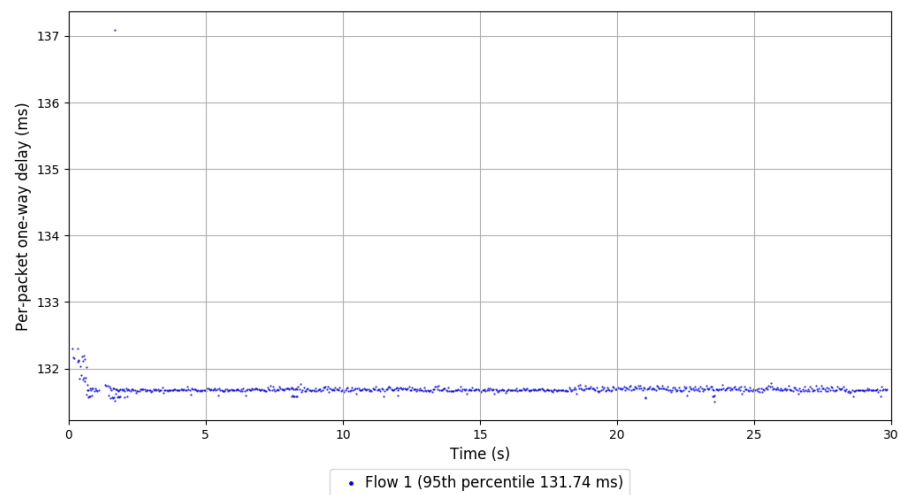
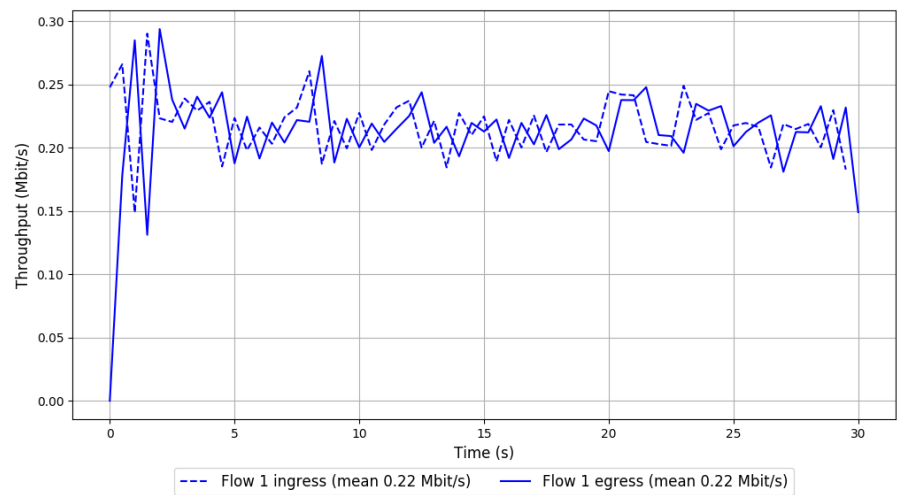


Run 5: Statistics of SCReAM

Start at: 2018-09-06 16:13:28
End at: 2018-09-06 16:13:58
Local clock offset: 0.615 ms
Remote clock offset: -32.837 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.737 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.737 ms
Loss rate: 0.64%

Run 5: Report of SReAM — Data Link

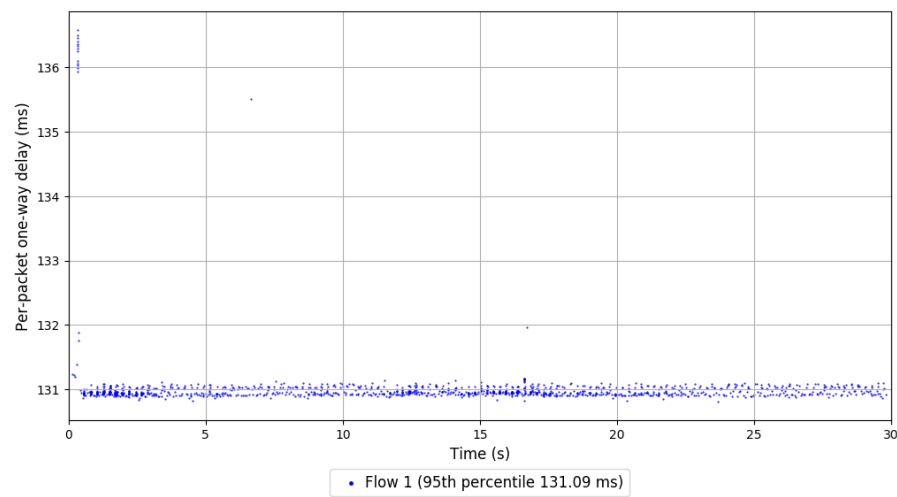
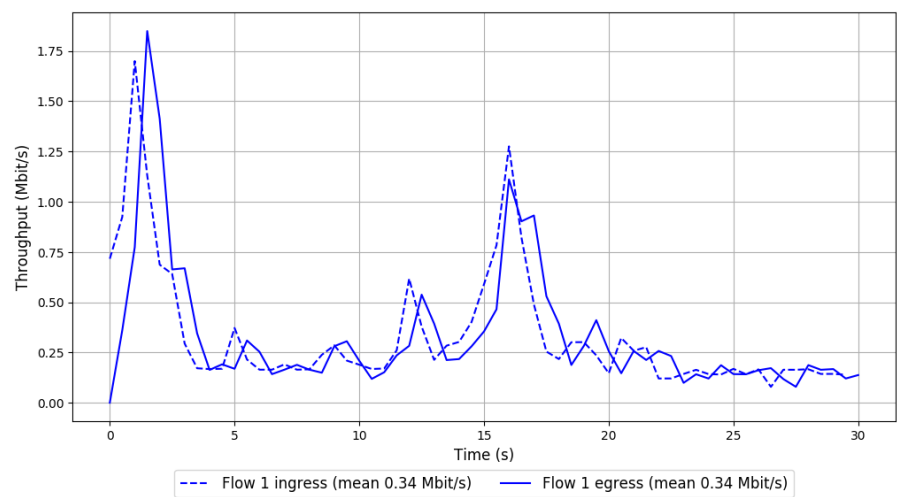


Run 1: Statistics of Sprout

Start at: 2018-09-06 14:13:30
End at: 2018-09-06 14:14:00
Local clock offset: 2.46 ms
Remote clock offset: -33.961 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 131.087 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 131.087 ms
Loss rate: 0.35%

Run 1: Report of Sprout — Data Link

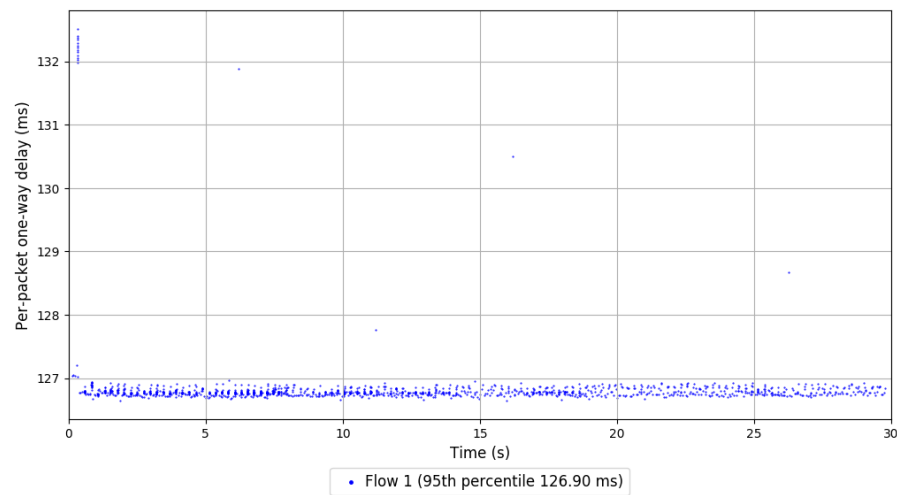
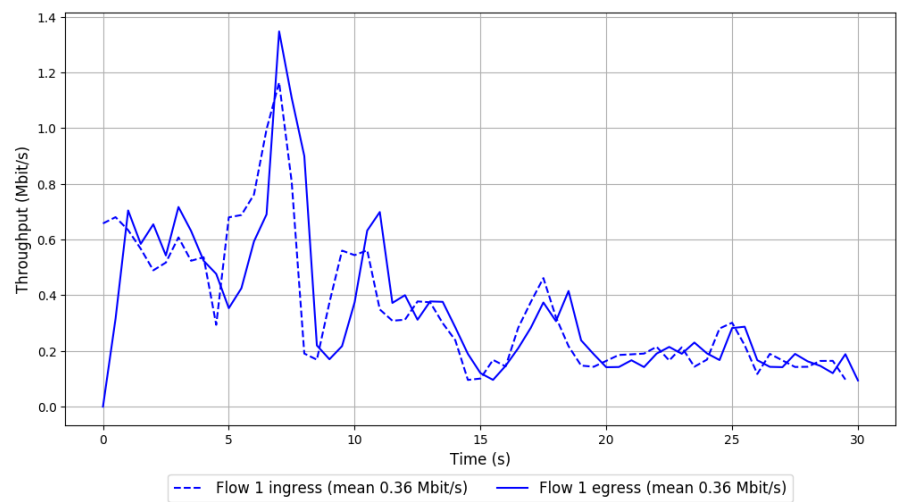


Run 2: Statistics of Sprout

Start at: 2018-09-06 14:37:29
End at: 2018-09-06 14:37:59
Local clock offset: -1.424 ms
Remote clock offset: -32.295 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 126.898 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 126.898 ms
Loss rate: 0.32%

Run 2: Report of Sprout — Data Link

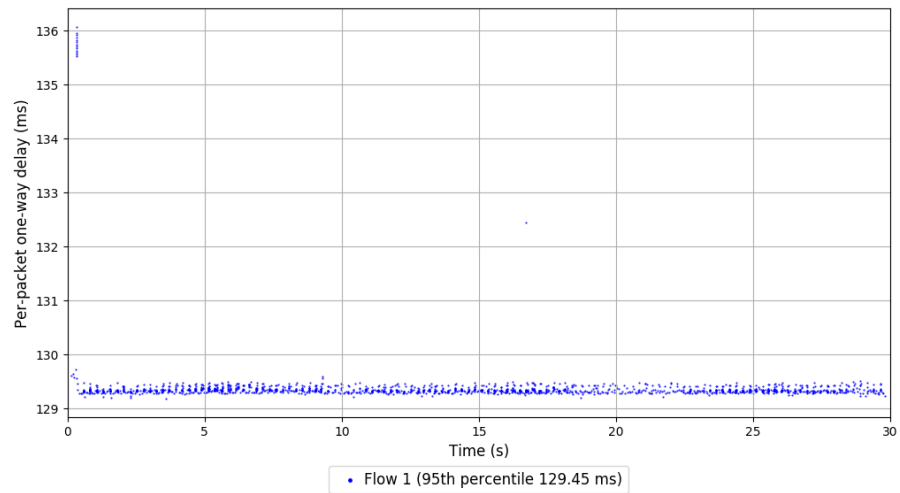
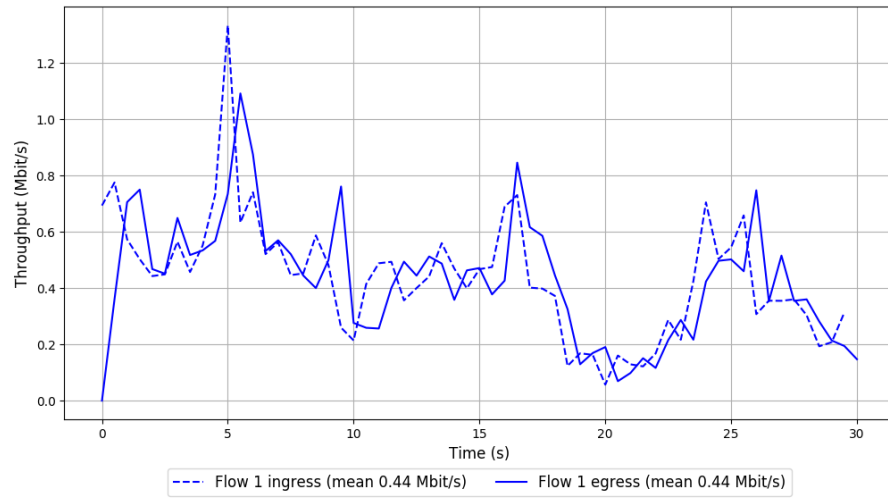


Run 3: Statistics of Sprout

Start at: 2018-09-06 15:01:23
End at: 2018-09-06 15:01:53
Local clock offset: 3.002 ms
Remote clock offset: -30.876 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 129.454 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 129.454 ms
Loss rate: 0.70%

Run 3: Report of Sprout — Data Link

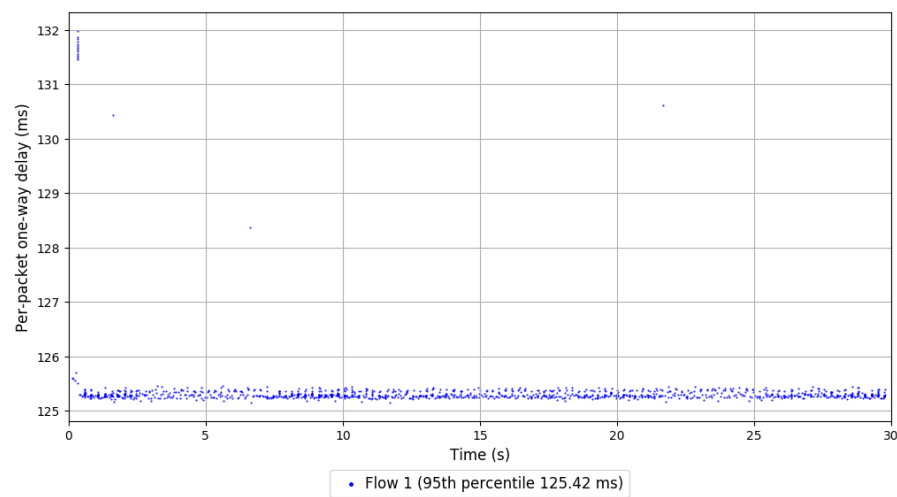
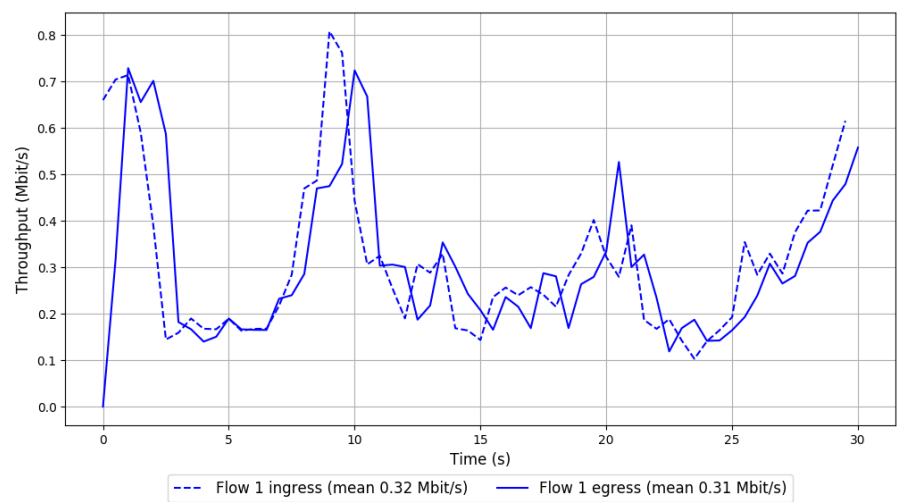


Run 4: Statistics of Sprout

Start at: 2018-09-06 15:30:36
End at: 2018-09-06 15:31:06
Local clock offset: -0.691 ms
Remote clock offset: -29.343 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 125.415 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 125.415 ms
Loss rate: 1.64%

Run 4: Report of Sprout — Data Link

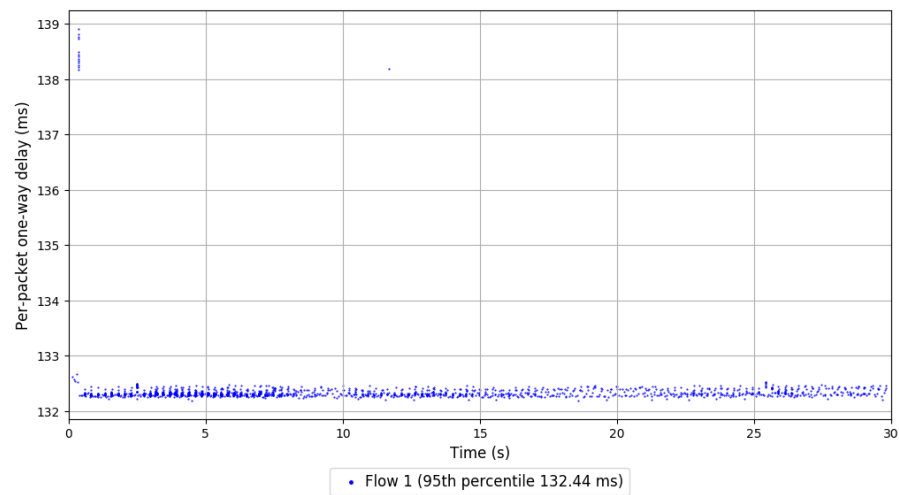
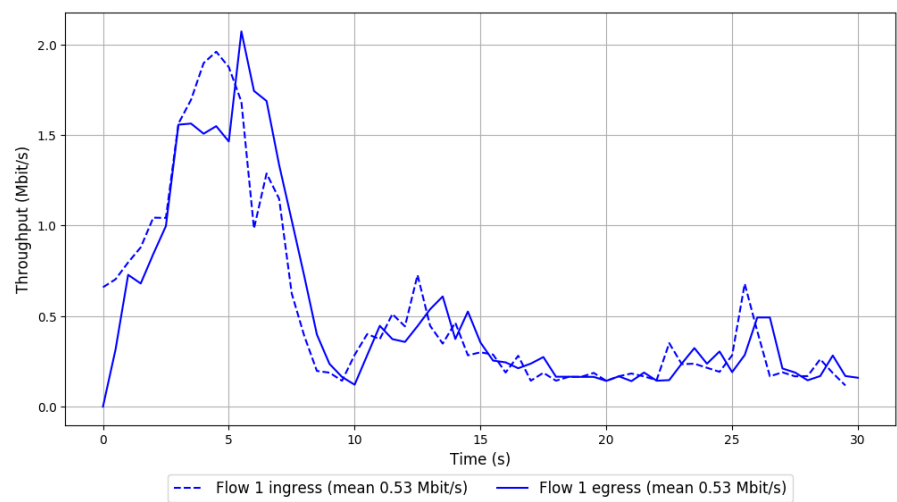


Run 5: Statistics of Sprout

Start at: 2018-09-06 15:54:28
End at: 2018-09-06 15:54:58
Local clock offset: -1.564 ms
Remote clock offset: -36.113 ms

Below is generated by plot.py at 2018-09-06 16:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 132.441 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 132.441 ms
Loss rate: 0.15%

Run 5: Report of Sprout — Data Link

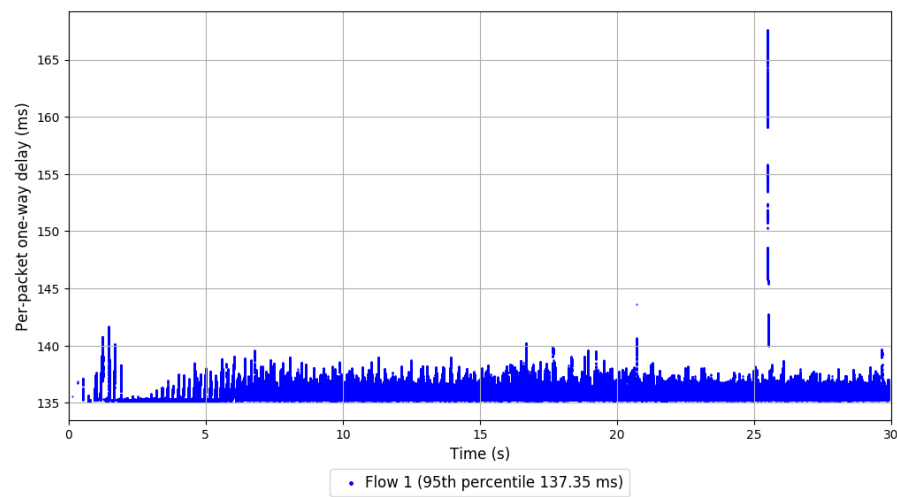
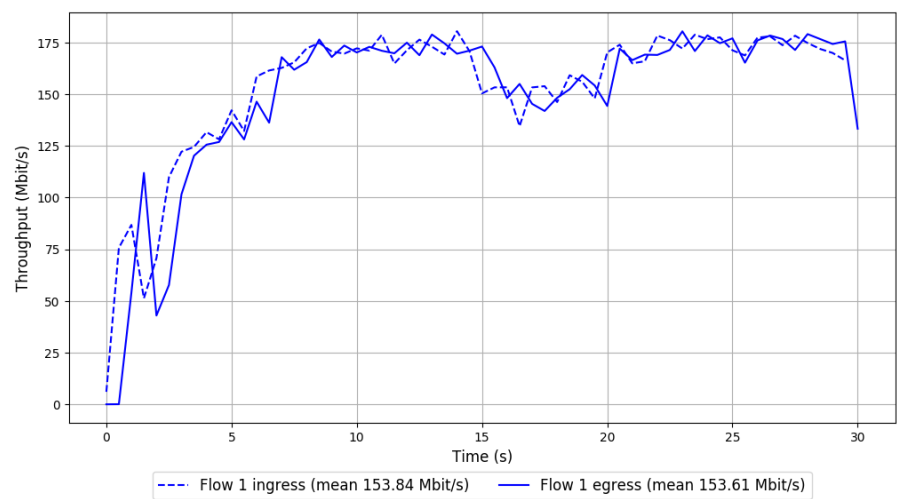


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 14:09:29
End at: 2018-09-06 14:09:59
Local clock offset: 2.284 ms
Remote clock offset: -38.777 ms

# Below is generated by plot.py at 2018-09-06 16:42:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 153.61 Mbit/s
95th percentile per-packet one-way delay: 137.347 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 153.61 Mbit/s
95th percentile per-packet one-way delay: 137.347 ms
Loss rate: 0.80%
```

Run 1: Report of TaoVA-100x — Data Link

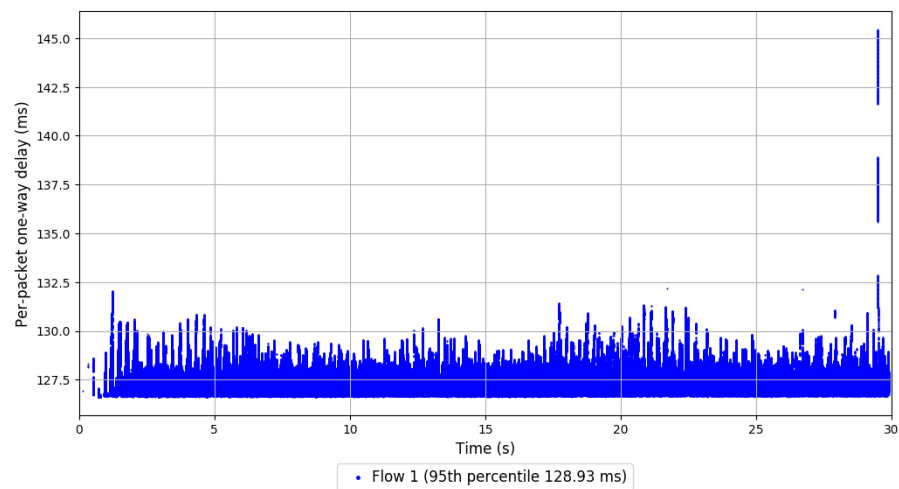
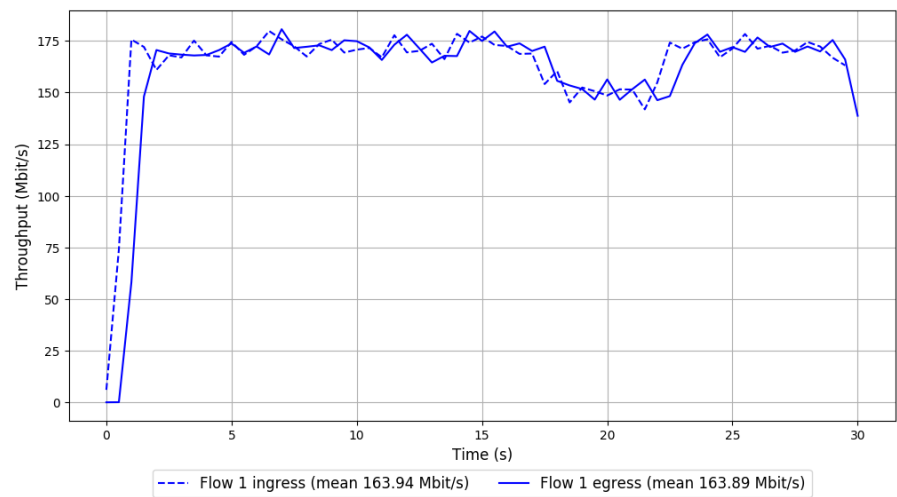


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 14:33:39
End at: 2018-09-06 14:34:09
Local clock offset: -1.539 ms
Remote clock offset: -32.304 ms

Below is generated by plot.py at 2018-09-06 16:42:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 163.89 Mbit/s
95th percentile per-packet one-way delay: 128.928 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 163.89 Mbit/s
95th percentile per-packet one-way delay: 128.928 ms
Loss rate: 0.68%

Run 2: Report of TaoVA-100x — Data Link

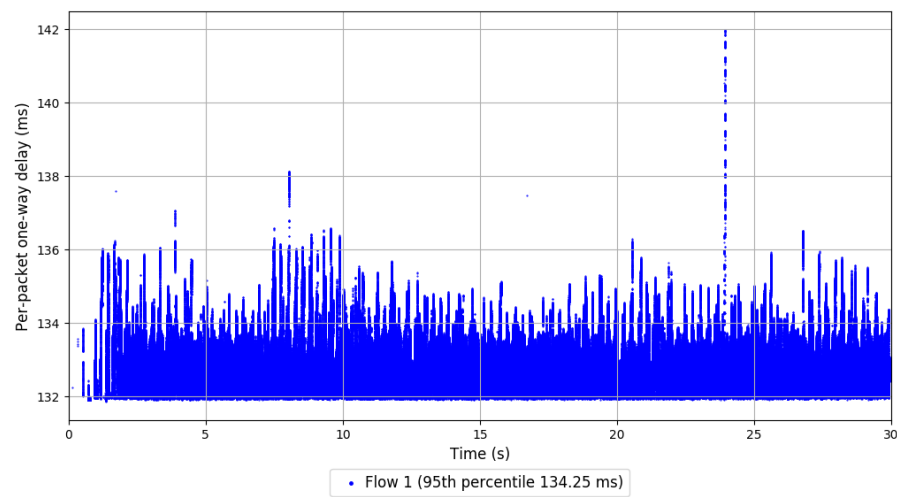
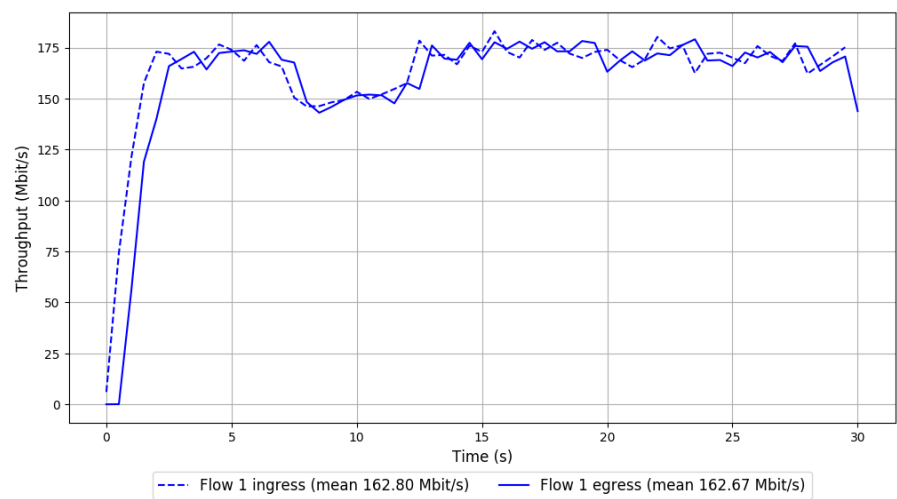


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 14:57:34
End at: 2018-09-06 14:58:04
Local clock offset: 0.578 ms
Remote clock offset: -34.509 ms

Below is generated by plot.py at 2018-09-06 16:42:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 162.67 Mbit/s
95th percentile per-packet one-way delay: 134.253 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 162.67 Mbit/s
95th percentile per-packet one-way delay: 134.253 ms
Loss rate: 0.73%

Run 3: Report of TaoVA-100x — Data Link

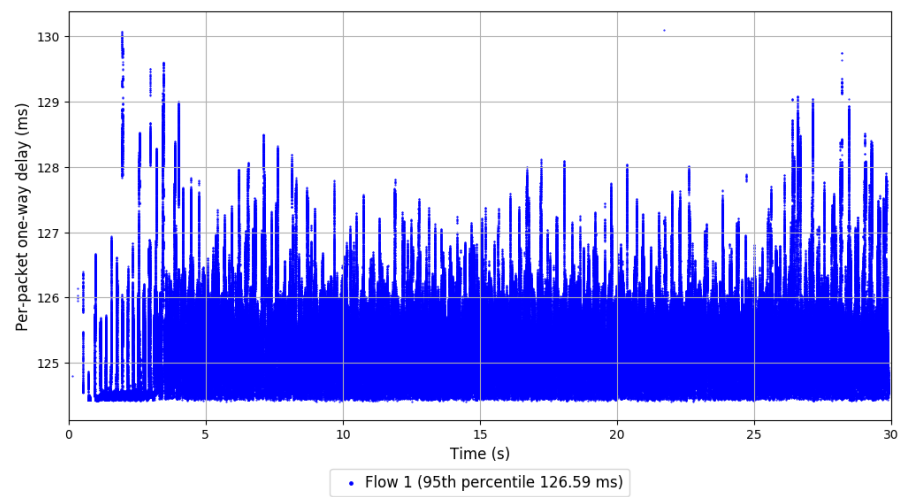
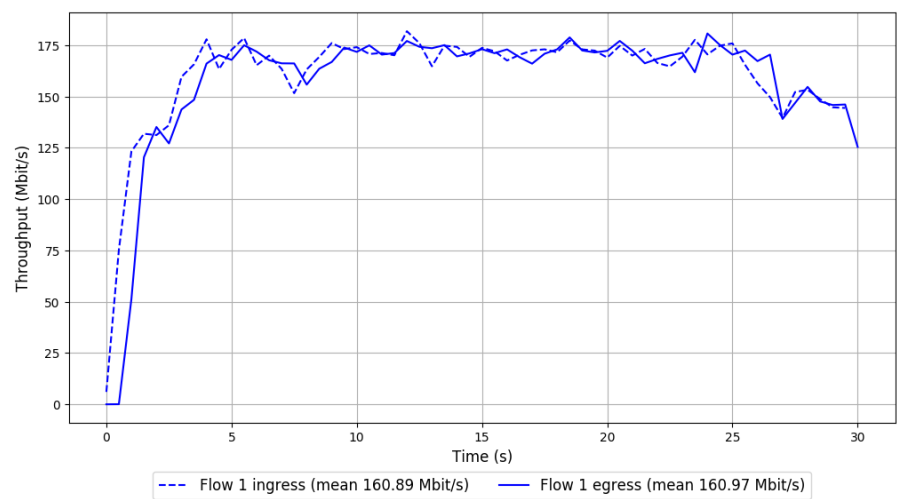


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 15:26:45
End at: 2018-09-06 15:27:15
Local clock offset: -1.679 ms
Remote clock offset: -31.005 ms

Below is generated by plot.py at 2018-09-06 16:42:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 160.97 Mbit/s
95th percentile per-packet one-way delay: 126.586 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 160.97 Mbit/s
95th percentile per-packet one-way delay: 126.586 ms
Loss rate: 0.60%

Run 4: Report of TaoVA-100x — Data Link

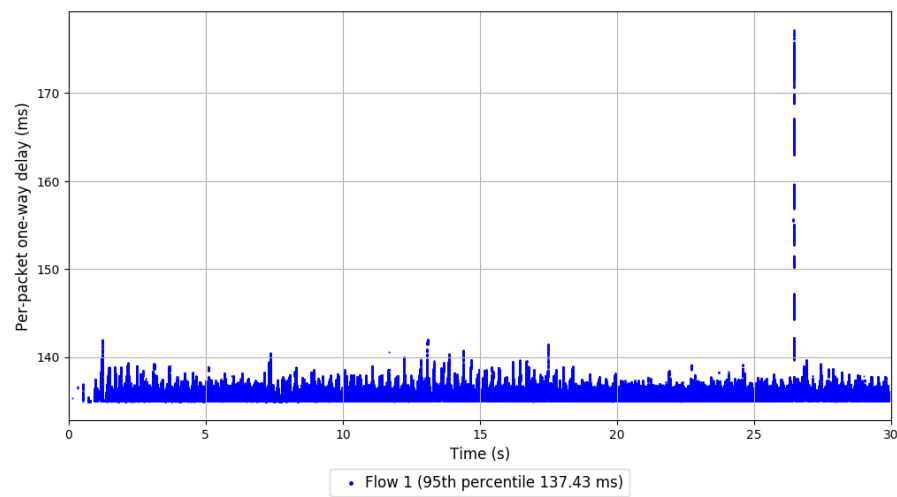
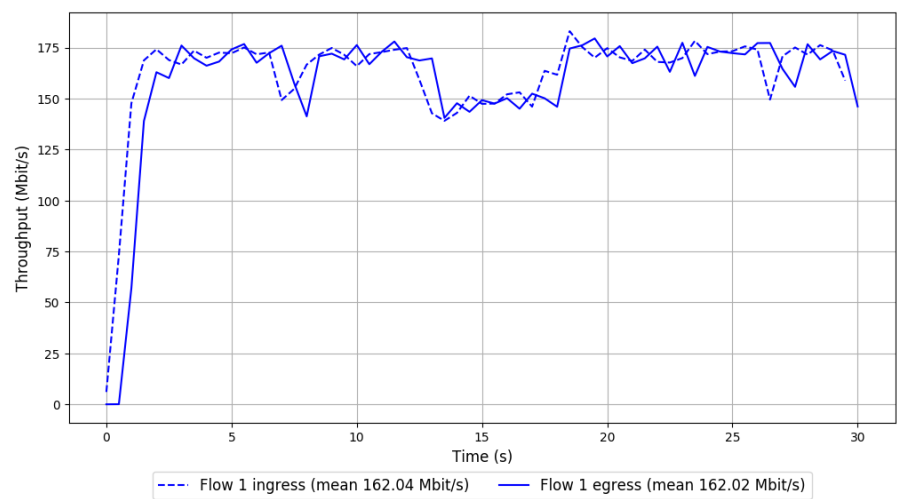


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 15:50:35
End at: 2018-09-06 15:51:05
Local clock offset: 3.308 ms
Remote clock offset: -35.916 ms

Below is generated by plot.py at 2018-09-06 16:42:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 162.02 Mbit/s
95th percentile per-packet one-way delay: 137.430 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 162.02 Mbit/s
95th percentile per-packet one-way delay: 137.430 ms
Loss rate: 0.67%

Run 5: Report of TaoVA-100x — Data Link

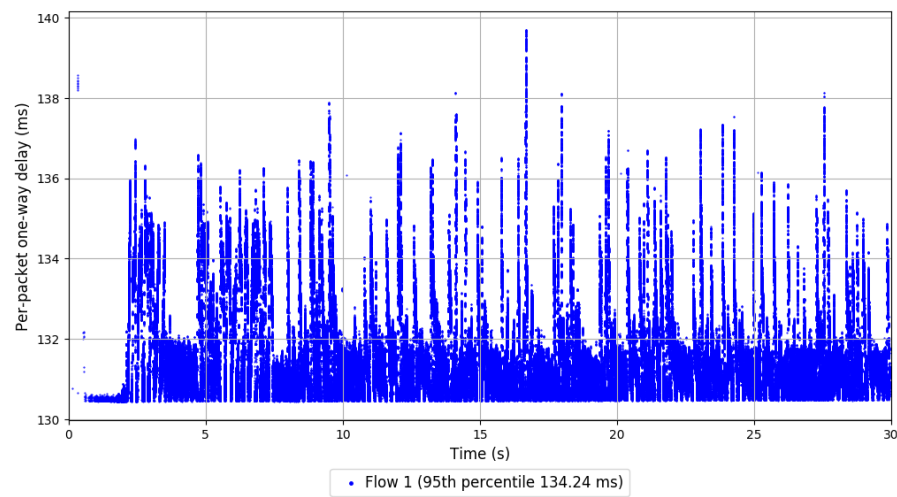
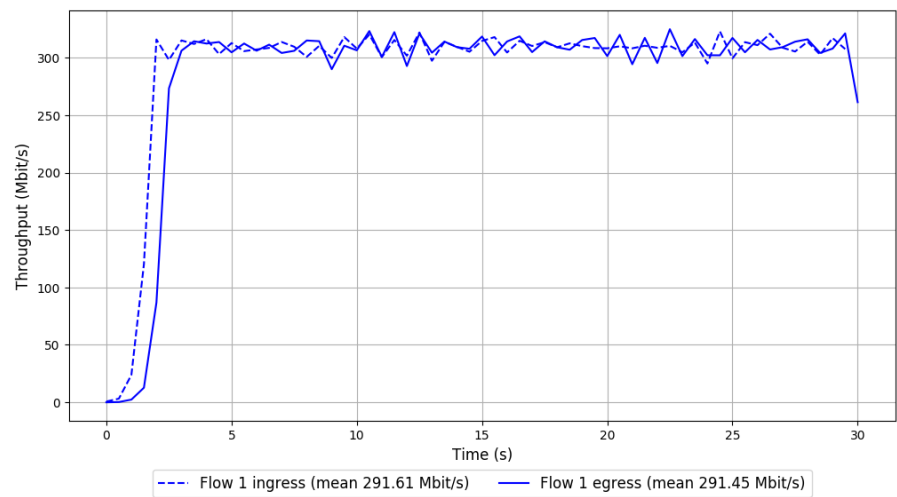


Run 1: Statistics of TCP Vegas

Start at: 2018-09-06 14:17:17
End at: 2018-09-06 14:17:47
Local clock offset: 2.144 ms
Remote clock offset: -33.463 ms

Below is generated by plot.py at 2018-09-06 16:42:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 291.45 Mbit/s
95th percentile per-packet one-way delay: 134.242 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 291.45 Mbit/s
95th percentile per-packet one-way delay: 134.242 ms
Loss rate: 0.70%

Run 1: Report of TCP Vegas — Data Link

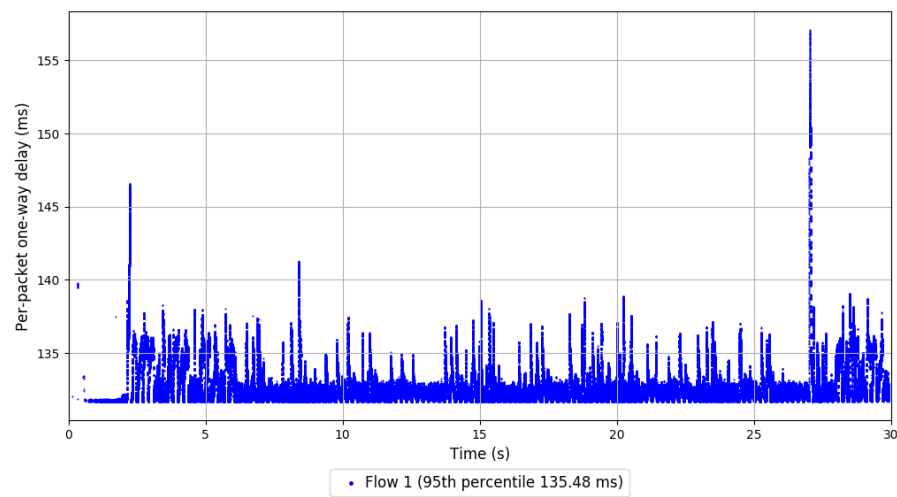
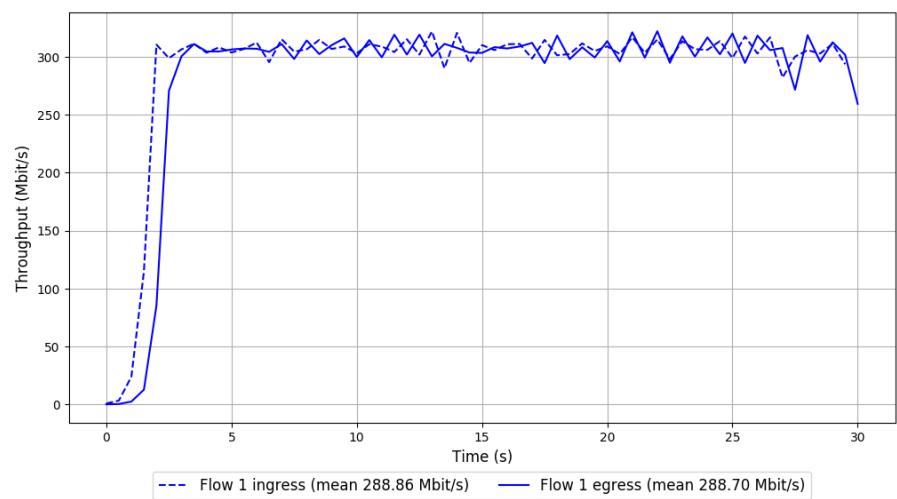


Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 14:41:17
End at: 2018-09-06 14:41:47
Local clock offset: 2.374 ms
Remote clock offset: -33.293 ms

Below is generated by plot.py at 2018-09-06 16:42:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 288.70 Mbit/s
95th percentile per-packet one-way delay: 135.476 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 288.70 Mbit/s
95th percentile per-packet one-way delay: 135.476 ms
Loss rate: 0.70%

Run 2: Report of TCP Vegas — Data Link

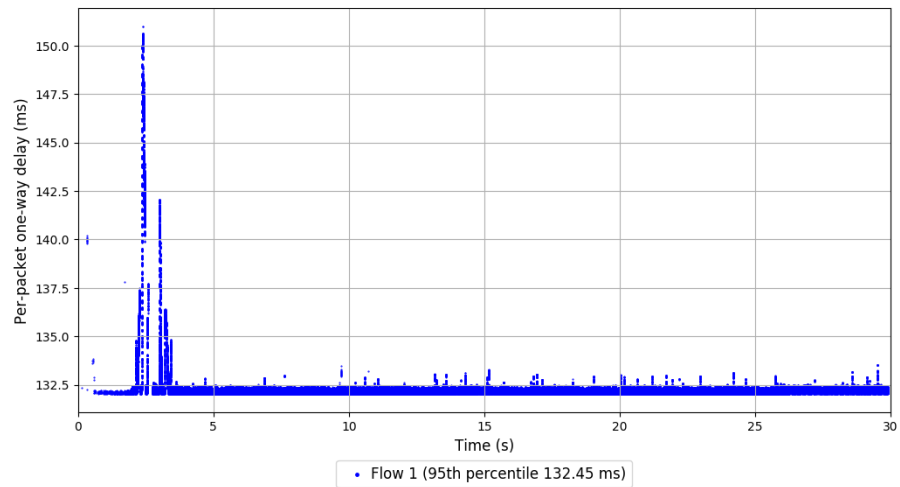
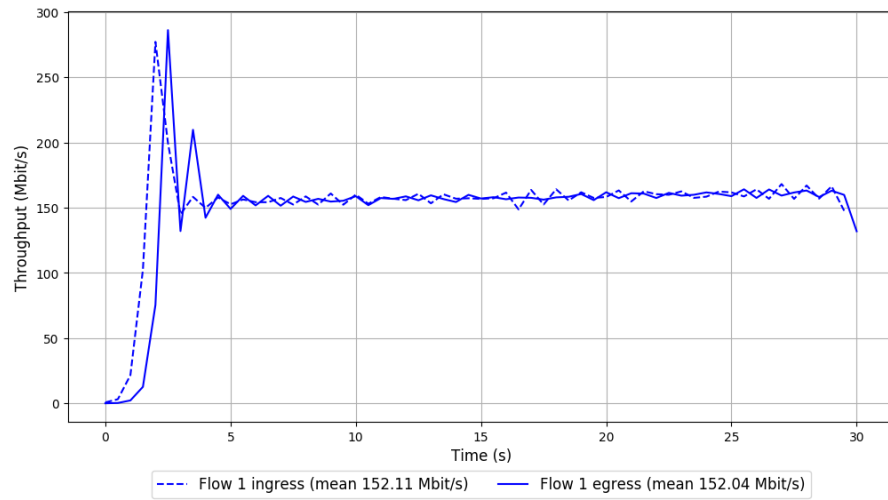


Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 15:05:11
End at: 2018-09-06 15:05:41
Local clock offset: 3.493 ms
Remote clock offset: -31.379 ms

Below is generated by plot.py at 2018-09-06 16:42:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 152.04 Mbit/s
95th percentile per-packet one-way delay: 132.446 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 152.04 Mbit/s
95th percentile per-packet one-way delay: 132.446 ms
Loss rate: 0.70%

Run 3: Report of TCP Vegas — Data Link

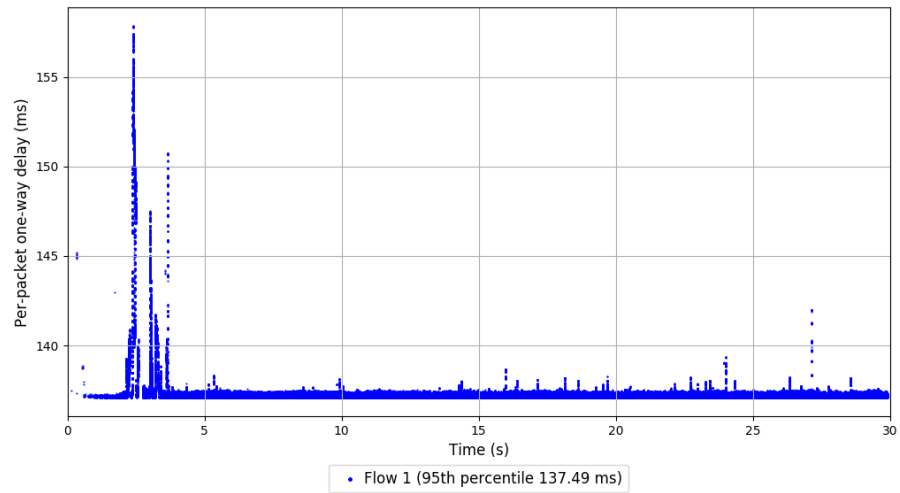
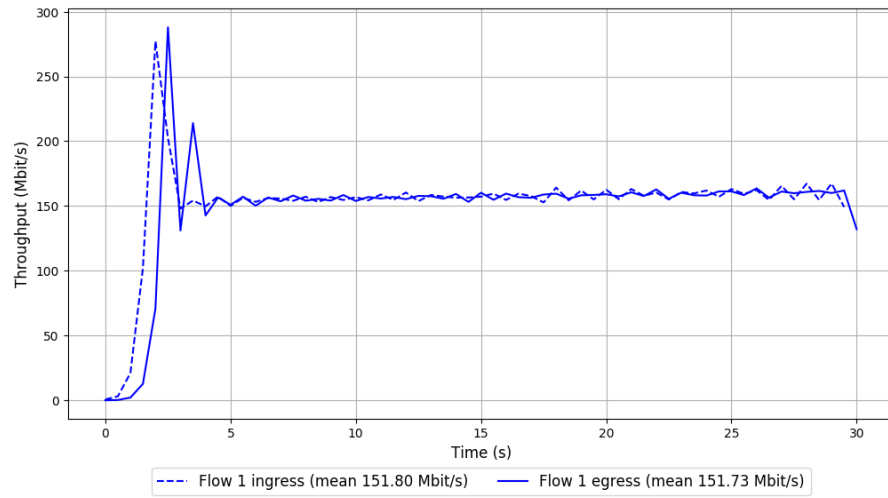


Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 15:34:23
End at: 2018-09-06 15:34:53
Local clock offset: 3.997 ms
Remote clock offset: -36.274 ms

Below is generated by plot.py at 2018-09-06 16:43:35
Datalink statistics
-- Total of 1 flow:
Average throughput: 151.73 Mbit/s
95th percentile per-packet one-way delay: 137.485 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 151.73 Mbit/s
95th percentile per-packet one-way delay: 137.485 ms
Loss rate: 0.70%

Run 4: Report of TCP Vegas — Data Link

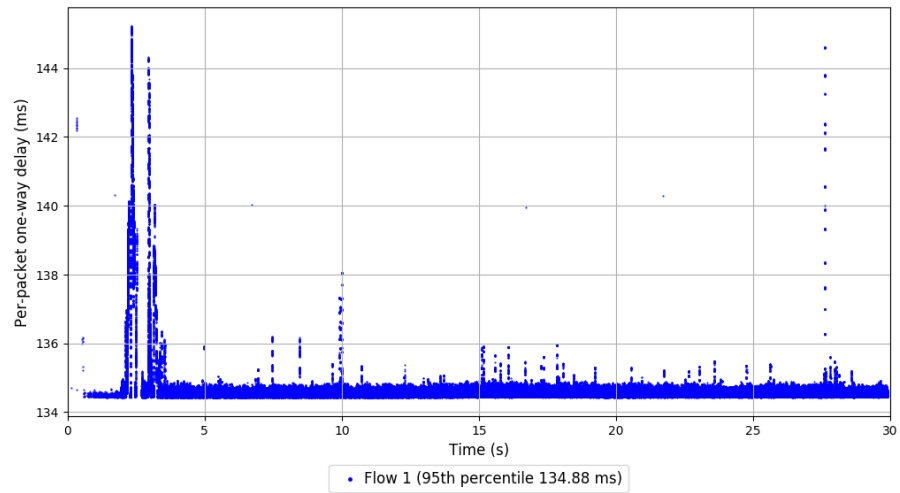
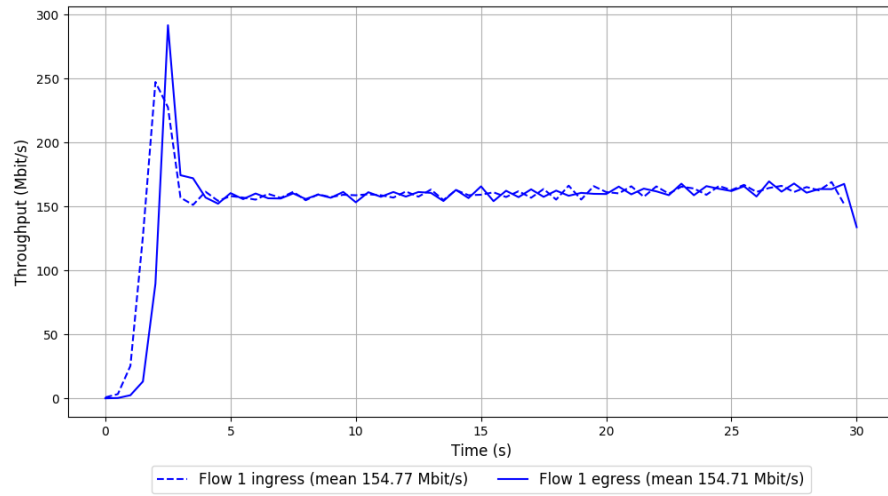


Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 15:58:16
End at: 2018-09-06 15:58:46
Local clock offset: 2.347 ms
Remote clock offset: -35.894 ms

Below is generated by plot.py at 2018-09-06 16:43:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 154.71 Mbit/s
95th percentile per-packet one-way delay: 134.882 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 154.71 Mbit/s
95th percentile per-packet one-way delay: 134.882 ms
Loss rate: 0.69%

Run 5: Report of TCP Vegas — Data Link

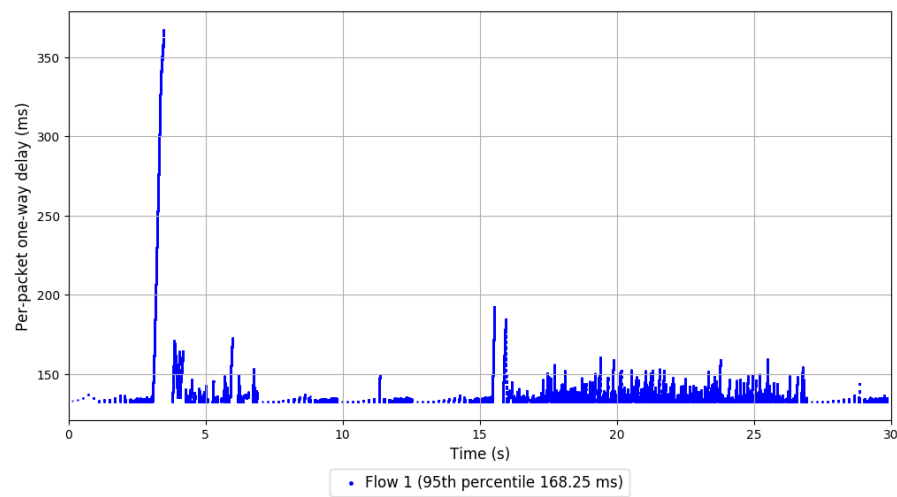
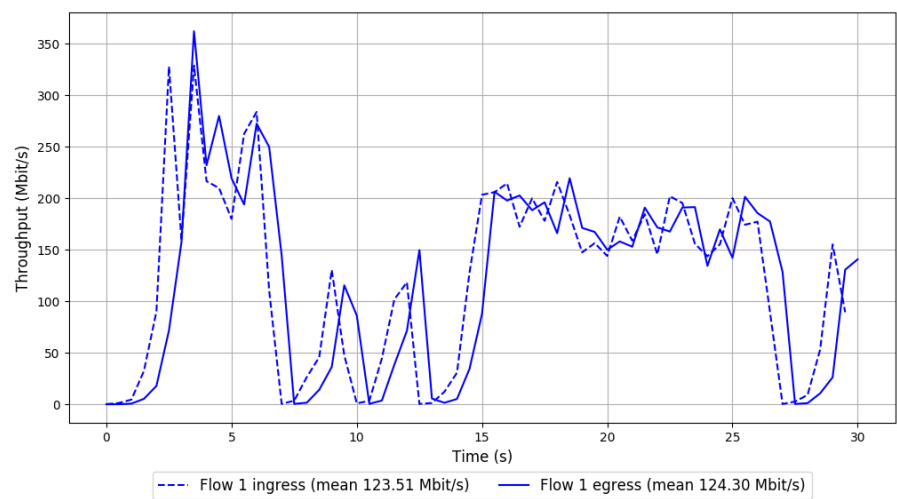


Run 1: Statistics of Verus

Start at: 2018-09-06 14:28:21
End at: 2018-09-06 14:28:51
Local clock offset: 2.614 ms
Remote clock offset: -35.976 ms

Below is generated by plot.py at 2018-09-06 16:43:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 124.30 Mbit/s
95th percentile per-packet one-way delay: 168.247 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 124.30 Mbit/s
95th percentile per-packet one-way delay: 168.247 ms
Loss rate: 0.00%

Run 1: Report of Verus — Data Link

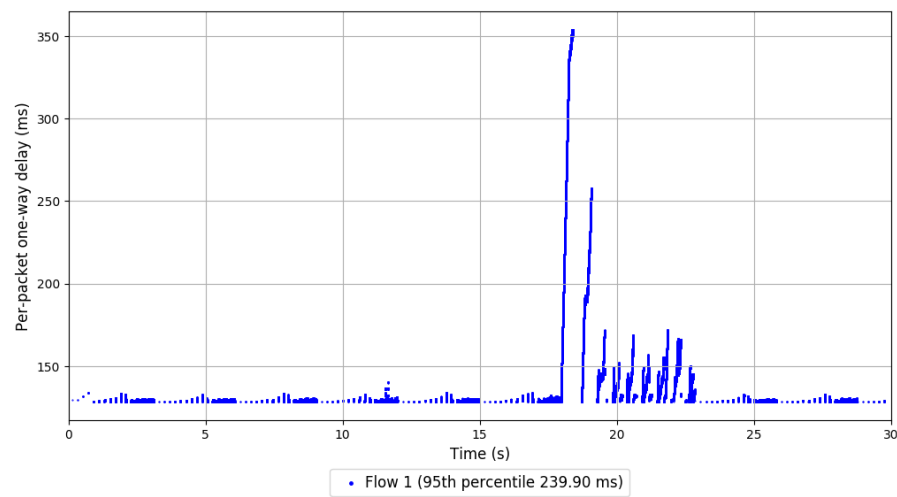
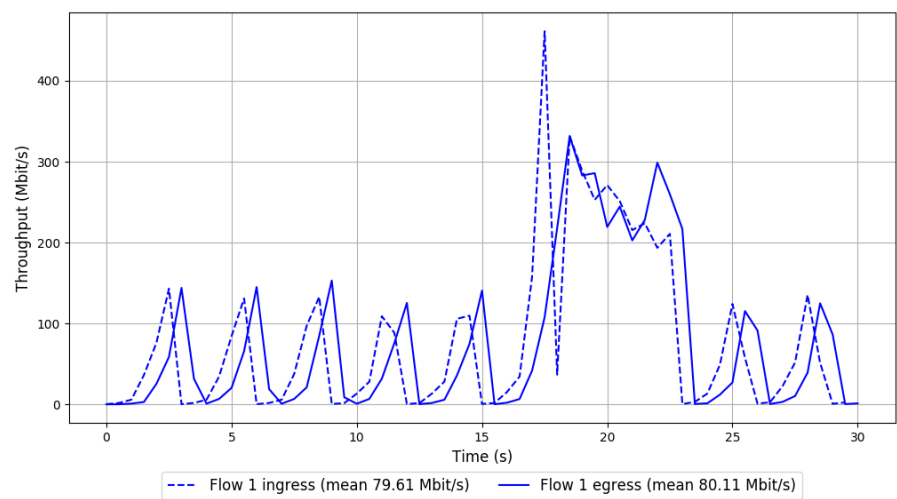


Run 2: Statistics of Verus

Start at: 2018-09-06 14:52:17
End at: 2018-09-06 14:52:47
Local clock offset: -0.856 ms
Remote clock offset: -32.571 ms

Below is generated by plot.py at 2018-09-06 16:43:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.11 Mbit/s
95th percentile per-packet one-way delay: 239.901 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 80.11 Mbit/s
95th percentile per-packet one-way delay: 239.901 ms
Loss rate: 0.04%

Run 2: Report of Verus — Data Link

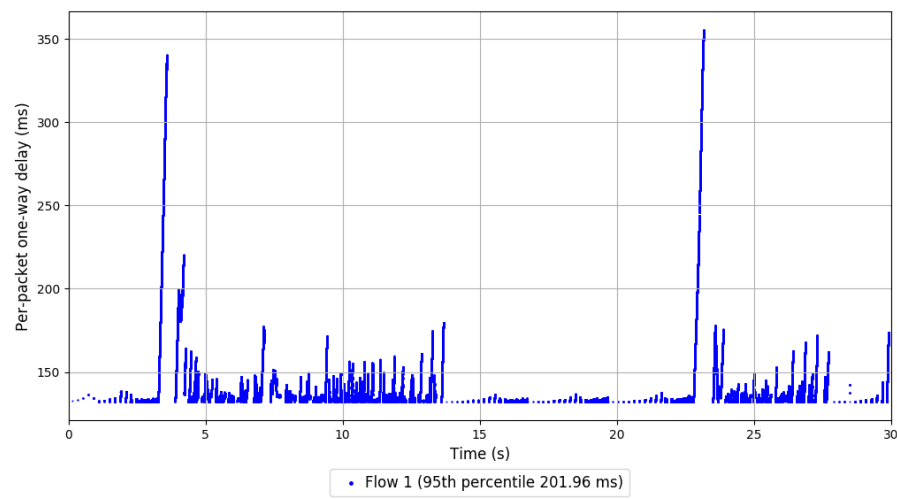
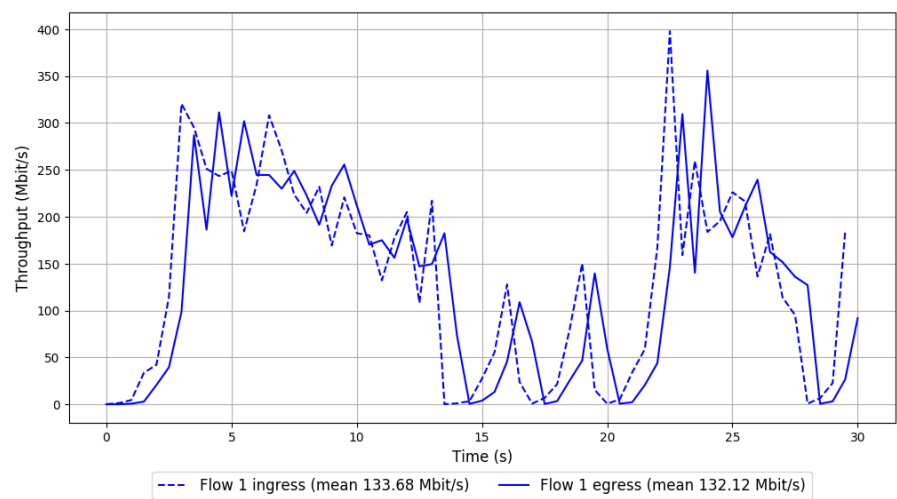


Run 3: Statistics of Verus

Start at: 2018-09-06 15:21:28
End at: 2018-09-06 15:21:58
Local clock offset: 2.688 ms
Remote clock offset: -32.889 ms

Below is generated by plot.py at 2018-09-06 16:43:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 132.12 Mbit/s
95th percentile per-packet one-way delay: 201.955 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 132.12 Mbit/s
95th percentile per-packet one-way delay: 201.955 ms
Loss rate: 1.17%

Run 3: Report of Verus — Data Link

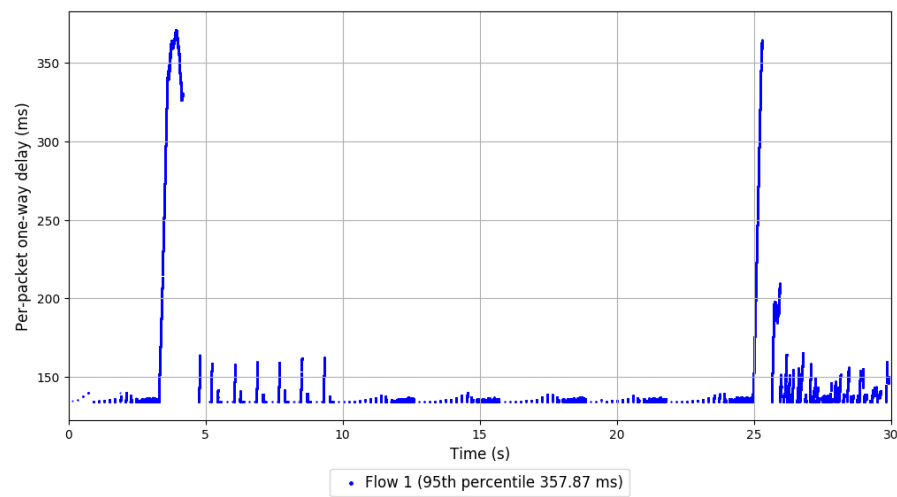
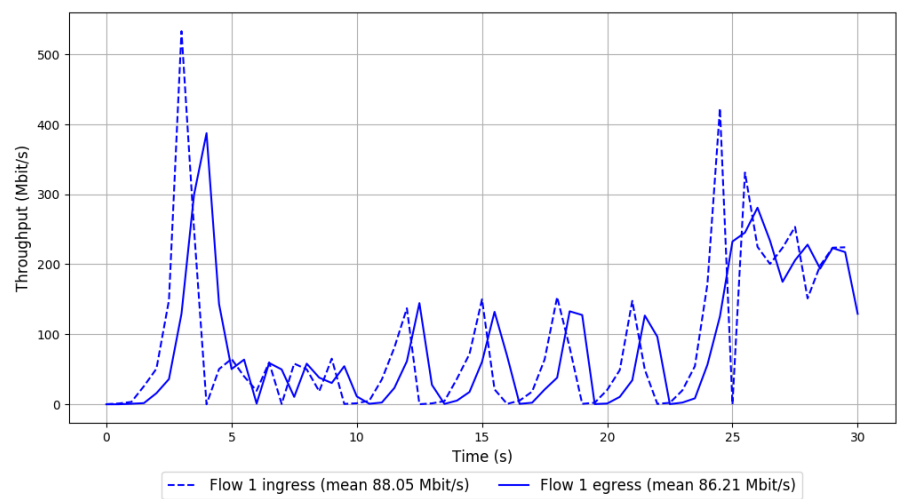


Run 4: Statistics of Verus

Start at: 2018-09-06 15:45:18
End at: 2018-09-06 15:45:48
Local clock offset: 1.973 ms
Remote clock offset: -35.717 ms

Below is generated by plot.py at 2018-09-06 16:43:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.21 Mbit/s
95th percentile per-packet one-way delay: 357.865 ms
Loss rate: 2.73%
-- Flow 1:
Average throughput: 86.21 Mbit/s
95th percentile per-packet one-way delay: 357.865 ms
Loss rate: 2.73%

Run 4: Report of Verus — Data Link

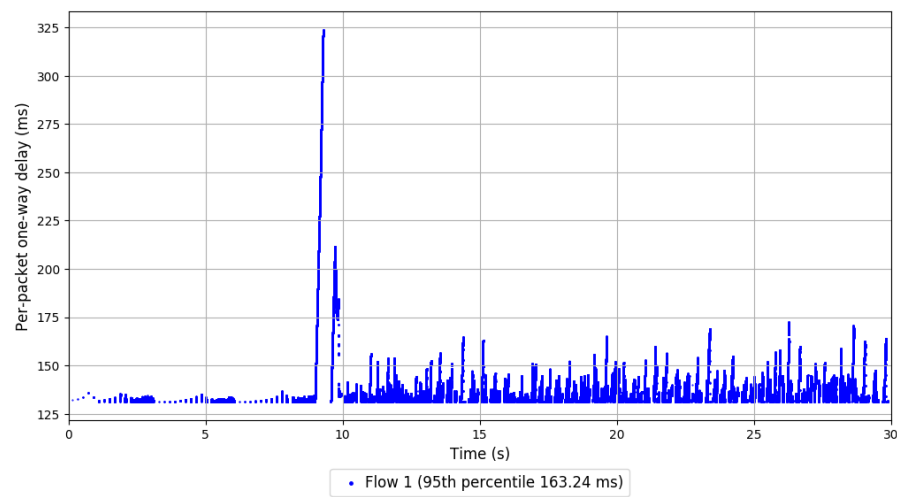
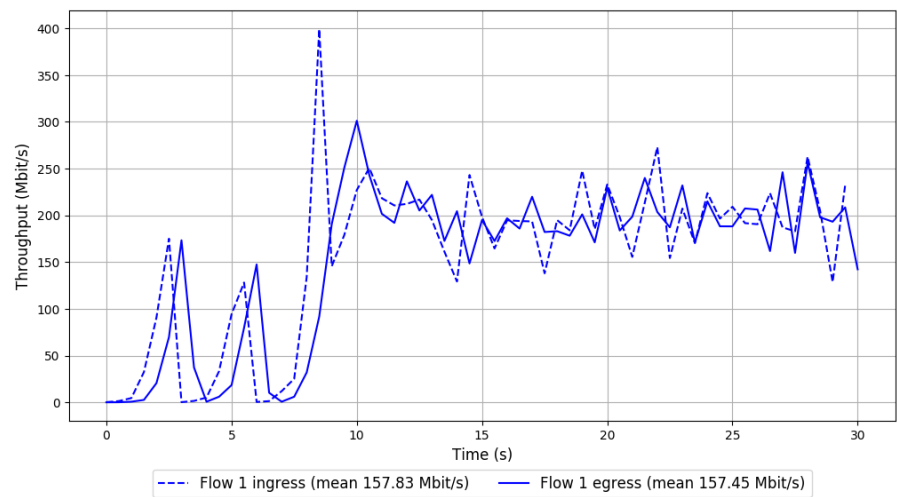


Run 5: Statistics of Verus

Start at: 2018-09-06 16:09:18
End at: 2018-09-06 16:09:48
Local clock offset: 1.907 ms
Remote clock offset: -31.273 ms

Below is generated by plot.py at 2018-09-06 16:44:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 157.45 Mbit/s
95th percentile per-packet one-way delay: 163.239 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 157.45 Mbit/s
95th percentile per-packet one-way delay: 163.239 ms
Loss rate: 0.99%

Run 5: Report of Verus — Data Link

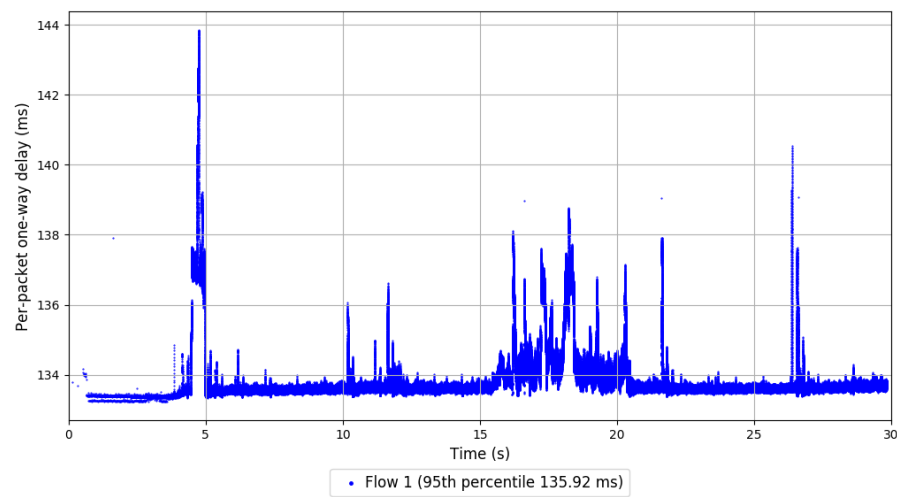
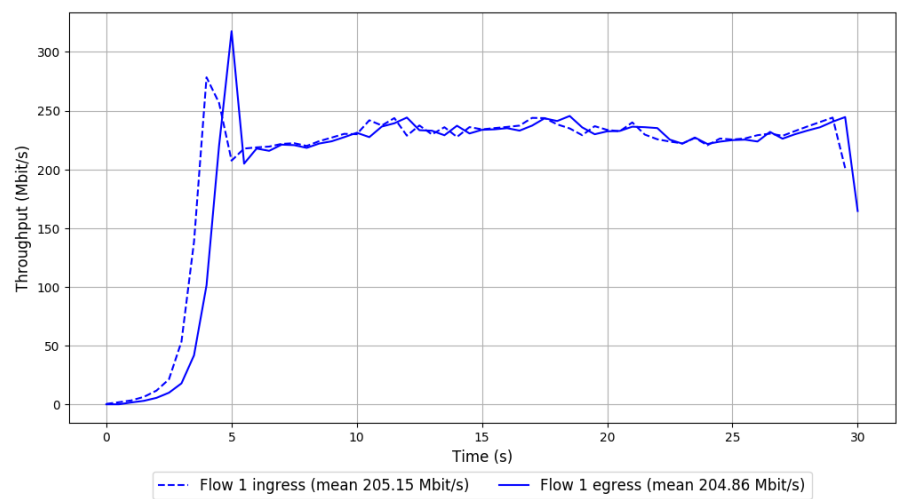


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 14:15:54
End at: 2018-09-06 14:16:24
Local clock offset: 2.608 ms
Remote clock offset: -37.779 ms

Below is generated by plot.py at 2018-09-06 16:44:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 204.86 Mbit/s
95th percentile per-packet one-way delay: 135.916 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 204.86 Mbit/s
95th percentile per-packet one-way delay: 135.916 ms
Loss rate: 0.81%

Run 1: Report of PCC-Vivace — Data Link

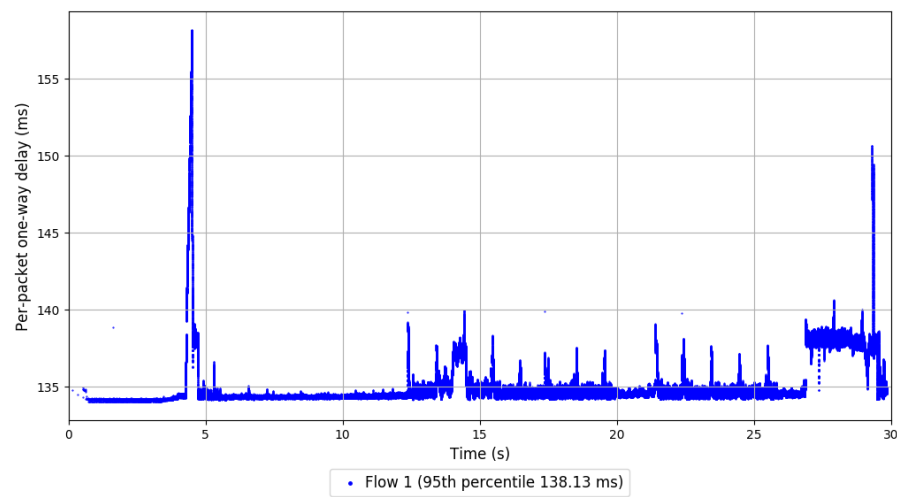
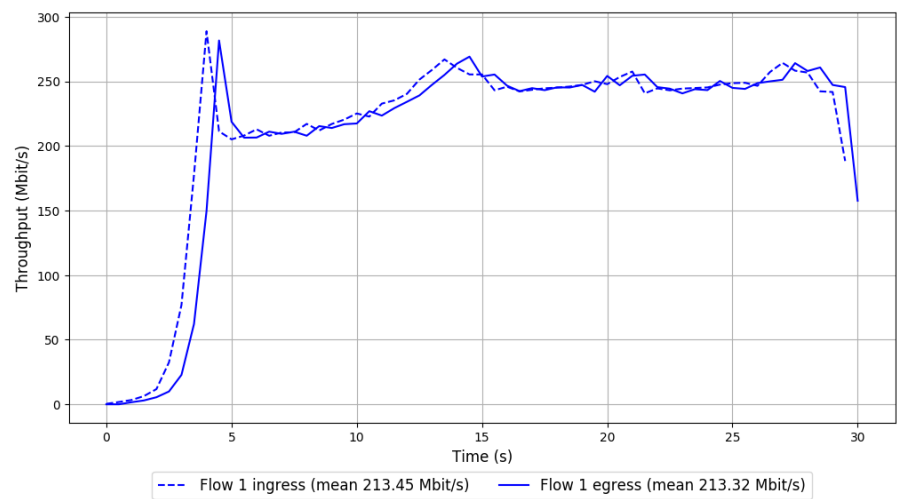


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 14:39:53
End at: 2018-09-06 14:40:23
Local clock offset: 2.264 ms
Remote clock offset: -37.403 ms

Below is generated by plot.py at 2018-09-06 16:45:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 213.32 Mbit/s
95th percentile per-packet one-way delay: 138.130 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 213.32 Mbit/s
95th percentile per-packet one-way delay: 138.130 ms
Loss rate: 0.71%

Run 2: Report of PCC-Vivace — Data Link

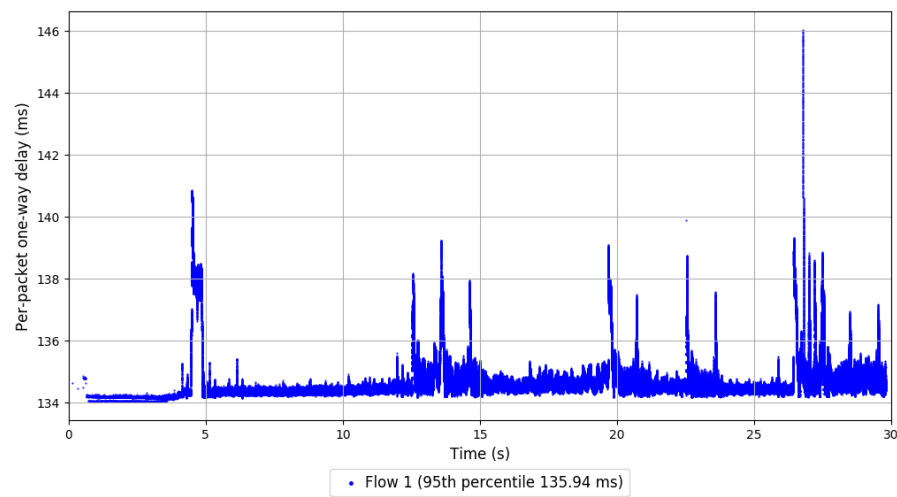
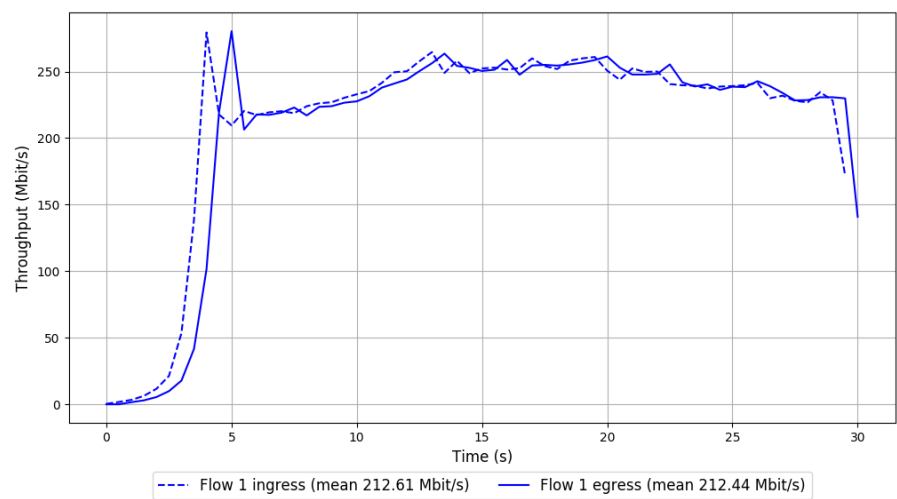


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 15:03:47
End at: 2018-09-06 15:04:17
Local clock offset: 1.4 ms
Remote clock offset: -37.318 ms

Below is generated by plot.py at 2018-09-06 16:45:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 212.44 Mbit/s
95th percentile per-packet one-way delay: 135.936 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 212.44 Mbit/s
95th percentile per-packet one-way delay: 135.936 ms
Loss rate: 0.73%

Run 3: Report of PCC-Vivace — Data Link

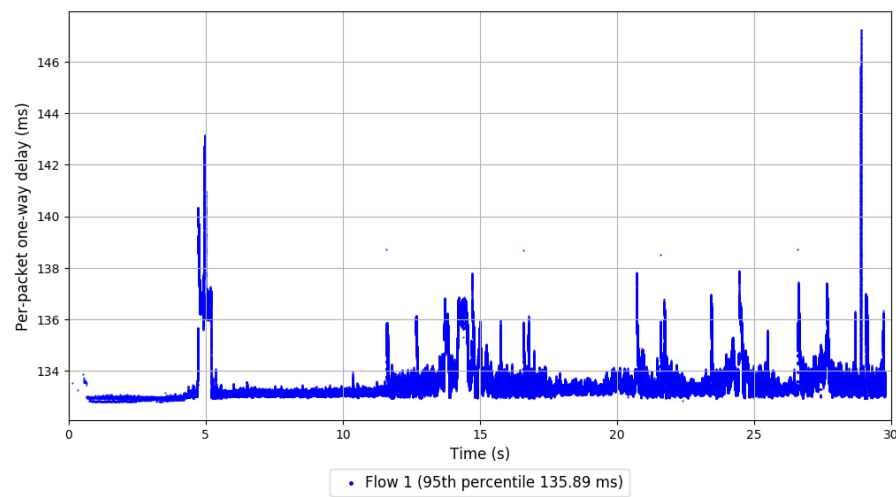
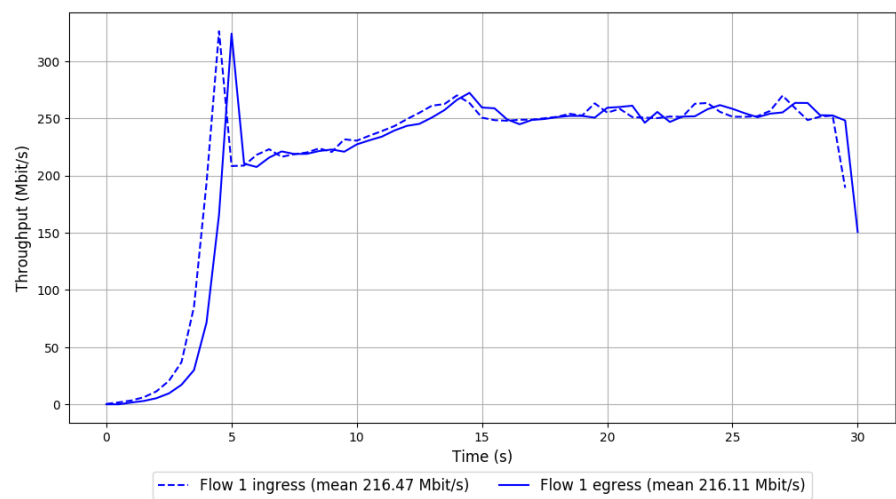


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-06 15:32:59
End at: 2018-09-06 15:33:29
Local clock offset: 1.987 ms
Remote clock offset: -34.487 ms

Below is generated by plot.py at 2018-09-06 16:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 216.11 Mbit/s
95th percentile per-packet one-way delay: 135.886 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 216.11 Mbit/s
95th percentile per-packet one-way delay: 135.886 ms
Loss rate: 0.82%

Run 4: Report of PCC-Vivace — Data Link

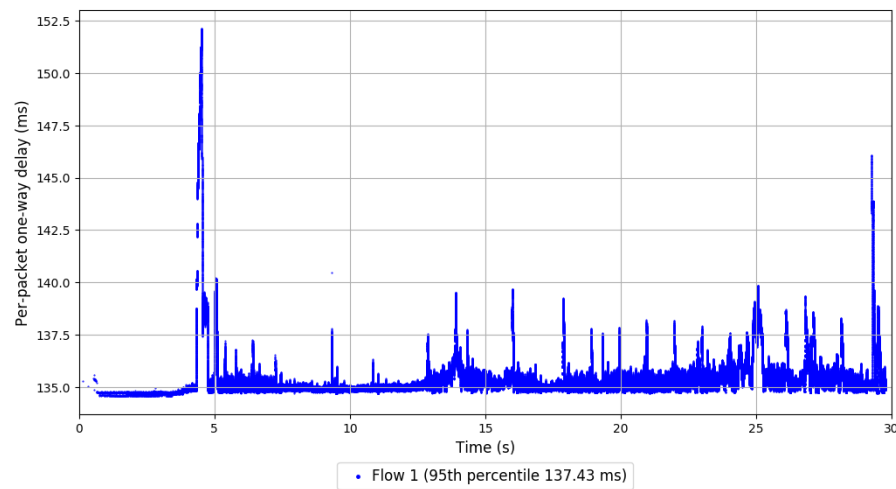
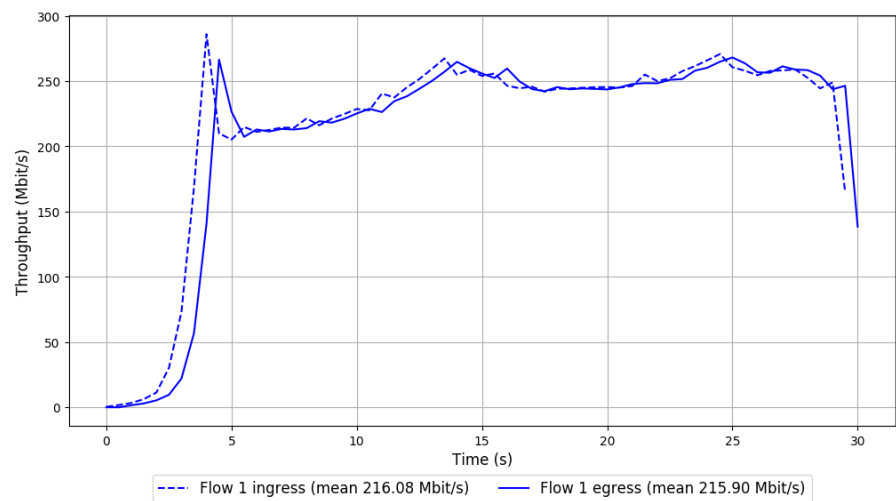


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 15:56:52
End at: 2018-09-06 15:57:22
Local clock offset: 0.515 ms
Remote clock offset: -36.435 ms

Below is generated by plot.py at 2018-09-06 16:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 215.90 Mbit/s
95th percentile per-packet one-way delay: 137.431 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 215.90 Mbit/s
95th percentile per-packet one-way delay: 137.431 ms
Loss rate: 0.74%

Run 5: Report of PCC-Vivace — Data Link

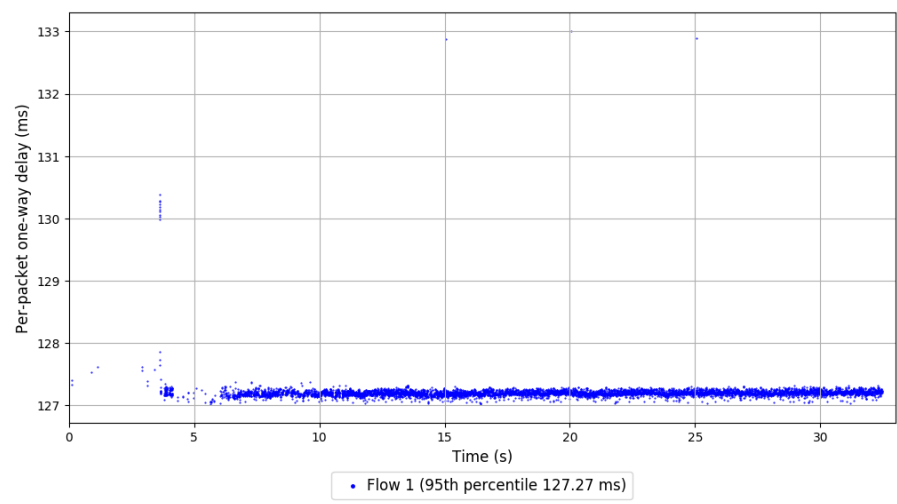
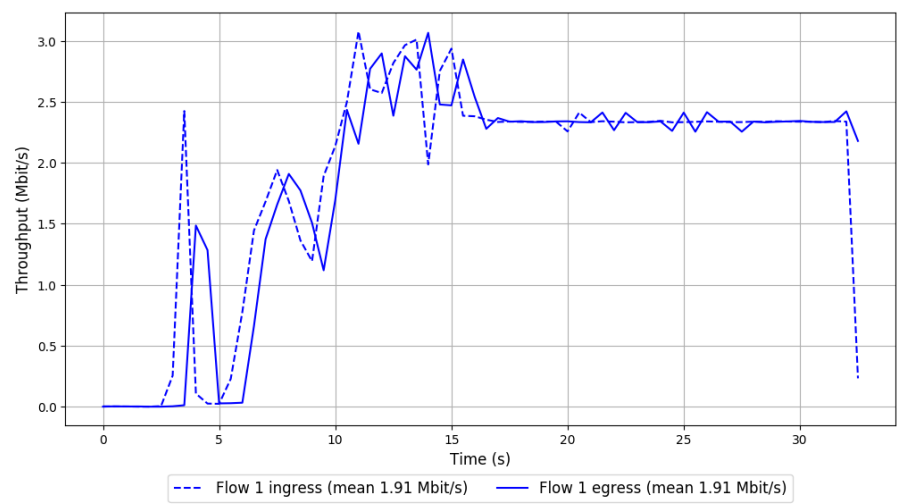


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-06 14:11:01
End at: 2018-09-06 14:11:31
Local clock offset: 2.269 ms
Remote clock offset: -32.095 ms

# Below is generated by plot.py at 2018-09-06 16:45:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 127.267 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 127.267 ms
Loss rate: 0.75%
```

Run 1: Report of WebRTC media — Data Link

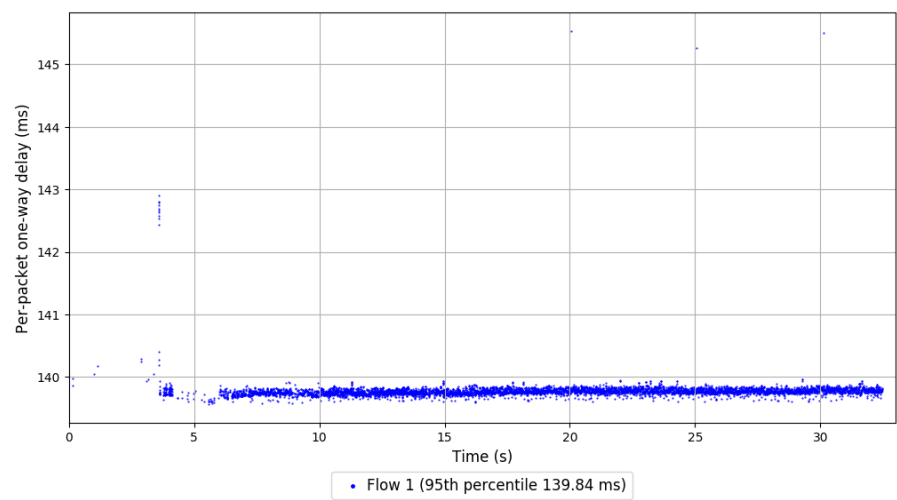
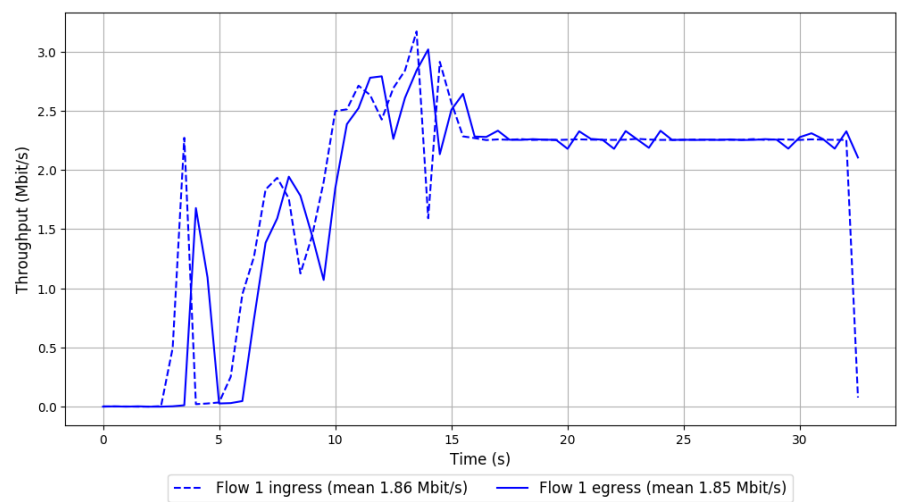


Run 2: Statistics of WebRTC media

Start at: 2018-09-06 14:35:03
End at: 2018-09-06 14:35:33
Local clock offset: 2.762 ms
Remote clock offset: -41.215 ms

Below is generated by plot.py at 2018-09-06 16:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 139.839 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 139.839 ms
Loss rate: 0.69%

Run 2: Report of WebRTC media — Data Link

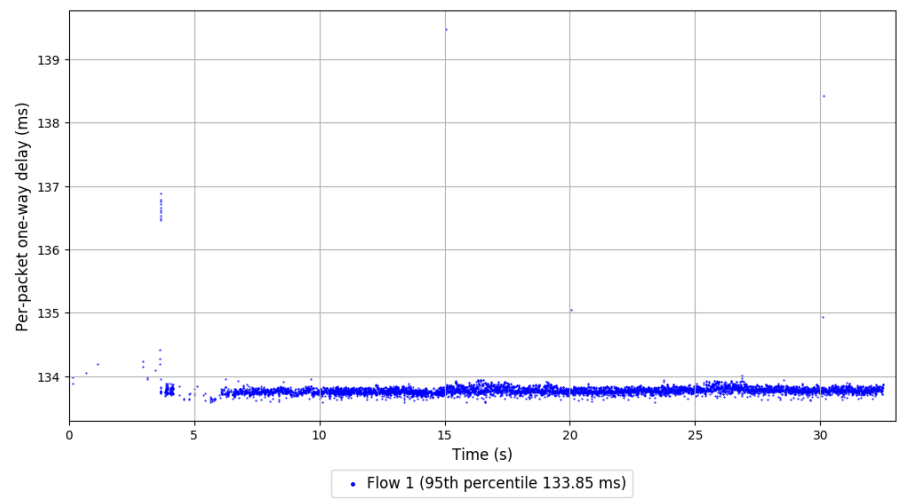
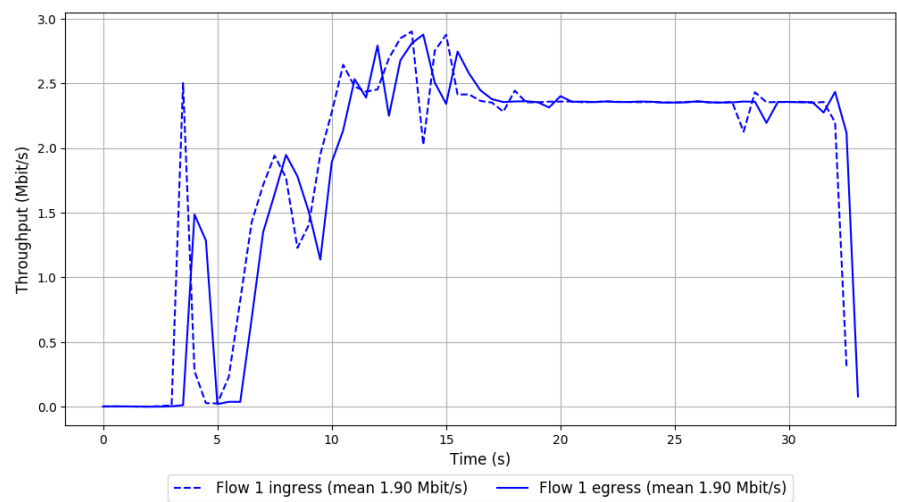


Run 3: Statistics of WebRTC media

Start at: 2018-09-06 14:58:58
End at: 2018-09-06 14:59:28
Local clock offset: 0.327 ms
Remote clock offset: -36.556 ms

Below is generated by plot.py at 2018-09-06 16:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 133.852 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 133.852 ms
Loss rate: 0.76%

Run 3: Report of WebRTC media — Data Link

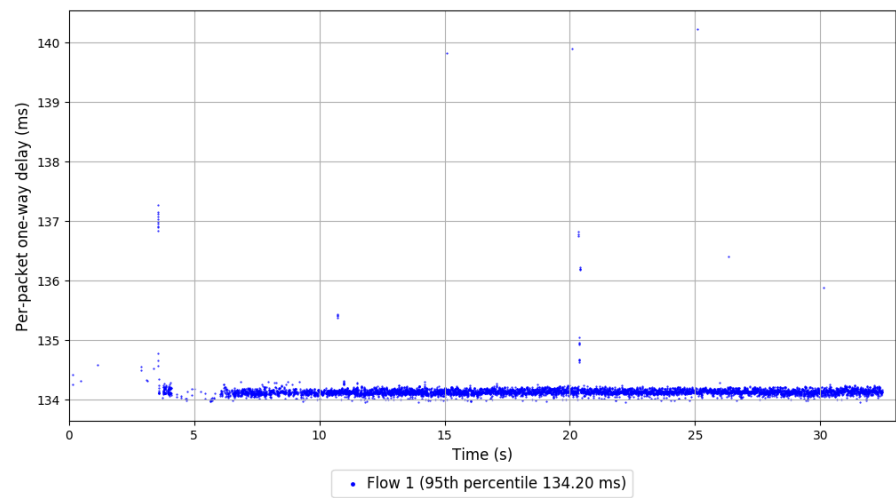
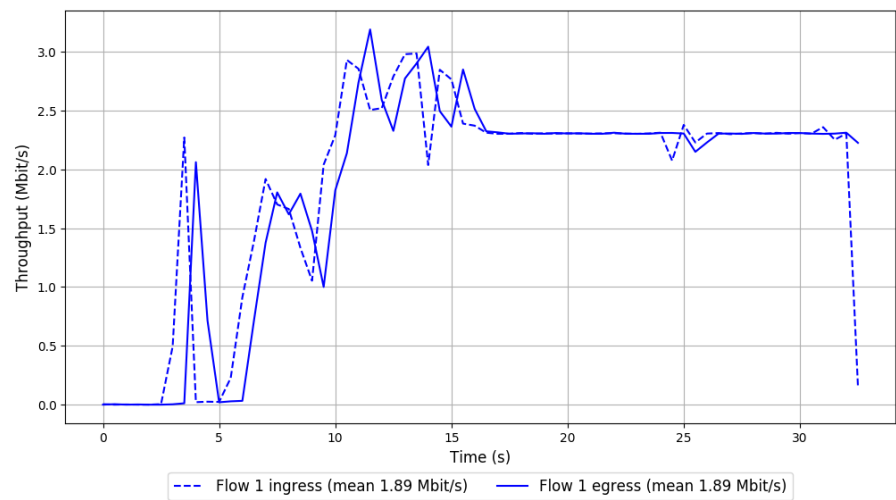


Run 4: Statistics of WebRTC media

Start at: 2018-09-06 15:28:10
End at: 2018-09-06 15:28:40
Local clock offset: 2.133 ms
Remote clock offset: -36.81 ms

Below is generated by plot.py at 2018-09-06 16:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 134.198 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 134.198 ms
Loss rate: 0.69%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 15:51:59
End at: 2018-09-06 15:52:29
Local clock offset: 3.258 ms
Remote clock offset: -32.592 ms

Below is generated by plot.py at 2018-09-06 16:45:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 133.570 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 133.570 ms
Loss rate: 0.75%

Run 5: Report of WebRTC media — Data Link

